



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

August 3, 2011

Mr. Michael J. Pacilio
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION - NRC INTEGRATED
INSPECTION REPORT 05000277/2011003 AND 05000278/2011003

Dear Mr. Pacilio:

On June 30, 2011, the U. S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. The enclosed integrated inspection report documents the inspection results, which were discussed on July 29, 2011, with Mr. Thomas Dougherty, Peach Bottom Site Vice President, and other members of your staff.

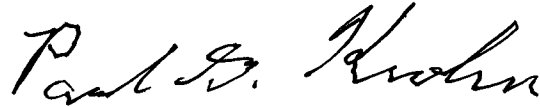
The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified. However, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance and because it has been entered into your corrective action program (CAP), the NRC is treating the finding as a non-cited violation (NCV) consistent with Section 2.3.2 of the NRC's Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U. S. NRC, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at the PBAPS.

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Sincerely,

A handwritten signature in black ink, appearing to read "Paul G. Krohn". The signature is fluid and cursive, with the first name "Paul" and last name "Krohn" clearly distinguishable.

Paul G. Krohn, Chief
Projects Branch 4
Division of Reactor Projects

Docket Nos.: 50-277, 50-278
License Nos.: DPR-44, DPR-56

Enclosure: Inspection Report 05000277/2011003 and 05000278/20110003
w/Attachment: Supplemental Information

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Sincerely,

/RA/

Paul G. Krohn, Chief
Projects Branch 4
Division of Reactor Projects

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-277, 50-278

License Nos.: DPR-44, DPR-56

Report No.: 05000277/2011003 and 05000278/2011003

Licensee: Exelon Generation Company, LLC

Facility: Peach Bottom Atomic Power Station, Units 2 and 3

Location: Delta, Pennsylvania

Dates: April 1, 2011 through June 30, 2011

Inspectors: F. Bower, Senior Resident Inspector
N. Lafferty, Acting Resident Inspector
A. Ziedonis, Resident Inspector
D. Molteni, Reactor Inspector
R. Nimitz, Senior Health Physicist
J. Nicolson, Health Physicist
B. Dionne, Health Physicist

Approved by: Paul G. Krohn, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000277/2011003, 05000278/2011003; 04/01/2011 - 06/30/2011; Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3; Integrated Inspection.

The report covered a three-month period of inspection by resident inspectors and announced inspections by a regional reactor inspector and a senior health physicist. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

None.

Other Findings

One violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. This violation and the licensee's corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period at 100 percent rated thermal power (RTP) where it generally remained until power was reduced to approximately 60 percent on May 20, to support summer readiness maintenance. The unit was returned to 100 percent RTP on May 21, where it generally remained until May 31, when power was reduced to 83 percent in response to a control rod drifting into the core. The unit was returned to 100 percent RTP later that day where it generally remained until the end of the inspection period, except for brief periods to support planned testing, maintenance, and rod pattern adjustments.

Unit 3 began the inspection period at 100 percent RTP where it generally remained until power was reduced to approximately 60 percent beginning on April 29, to support summer readiness maintenance. The unit was returned to 100 percent RTP on May 2, where it generally remained until the end of the inspection period, except for brief periods to support planned testing, maintenance, and rod pattern adjustments.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - 4 Samples)

.1 Grid Reliability (1 Grid Reliability Sample)

a. Inspection Scope

The inspectors reviewed plant features and procedures for operation and continued availability of offsite and backup power systems during adverse weather (summer conditions). The inspectors reviewed communication protocols between the control room personnel and electrical system operations, as well as measures prescribed and taken to maintain the availability and reliability of these alternating current systems. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 External Flooding (1 External Flooding Sample)

a. Inspection Scope

The inspectors reviewed selected risk-important plant design features intended to protect the plant and its safety-related equipment from external flooding events. The inspectors reviewed the external flood analyses in Design Bases Document (DBD) P-T-07, "External Hazards," selected sections of the Updated Final Safety Analysis Report (UFSAR), and Special Event (SE) Procedure, SE-4, "Flood Procedure." On April 2, 2011, the inspectors walked down the high pressure service water (HPSW) rooms, emergency cooling tower, and the emergency service water (ESW) room to review the

licensee's external flooding protection. In addition, flooding design bases, flooding procedures, and relevant issue reports (IRs) were reviewed.

b. Findings

No findings were identified.

.3 Summer Seasonal Readiness Preparations (1 Seasonal Readiness Sample)

a. Inspection Scope

The inspectors conducted a review of PBAPS's preparations for the 2011 summer conditions to verify selected features of the plant's design were sufficient to protect mitigating systems from the effects of adverse weather. The inspectors performed a detailed review of PBAPS's and Exelon's written procedures for summer readiness, including PBAPS's implementation of procedure WC-AA-107, "Seasonal Readiness," in preparation for summer season readiness. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. The inspectors reviewed the UFSAR and performance requirements for systems selected for inspection. The inspectors reviewed CAP records to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP. In addition, the inspectors reviewed the "Certification of 2011 Peach Bottom Summer Readiness" memorandum dated May 13, 2011. Documents reviewed during this inspection are listed in the Attachment. The inspectors walked down the following systems and equipment:

- Unit 2 HPSW and ESW pump room;
- Unit 3 HPSW and ESW pump room;
- Emergency diesel generator (EDG) rooms; and
- 'A' and 'B' environmental cooling towers.

b. Findings

No findings were identified.

4. Adverse Weather Event (1 Event Sample)

a. Inspection Scope

During two time periods on April 28, 2011, tornado warnings were declared for the areas in the vicinity of PBAPS. The inspectors verified that the control room operator crew entered procedure OP-PB-108-111-1001, "Preparation for Severe Weather." The inspectors also verified that operators recognized the increase (from green to yellow) in online risk due to weather conditions per the guidance in procedure WC-AA-101, "On-Line Work Control Process." Additionally, the inspectors walked down and inspected areas external to the plant look for potential missile hazards and informed PBAPS personnel of potential areas of concern. The inspectors confirmed that there were no actual high winds effects on the plant on April 28, 2011. The inspectors also reviewed CAP items to verify that PBAPS was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station

corrective action procedures. Documents reviewed during the inspection are listed in the Attachment. This activity constituted one inspection sample.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04Q - 3 Samples)

Partial Walkdown

a. Inspection Scope

The inspectors performed a partial walkdown of three systems to verify the operability of redundant or diverse trains and components when safety-related equipment was inoperable. The inspectors performed walkdowns to identify any discrepancies that could impact the function of the system and potentially increase risk. The inspectors reviewed selected applicable operations procedures, walked down system components, and verified that selected breakers, valves, and support equipment were in the correct position to support system operation. Documents reviewed during the inspection are listed in the Attachment. The three systems reviewed were:

- 'A' train of ESW during 'B' train planned maintenance;
- Unit 2 'B' train of core spray (CS) during 'A' train planned maintenance; and
- Unit 3 'B' train of residual heat removal during 'A' train planned maintenance.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q - 6 Samples)

Fire Protection - Tours

a. Inspection Scope

The inspectors conducted six fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment. The inspectors reviewed areas to assess whether PBAPS had implemented the Peach Bottom Fire Protection Plan (FPP) and adequately: controlled combustibles and ignition sources within the plant; maintained fire detection and suppression capability; and maintained the material condition of passive fire protection features. For the areas inspected, the inspectors also verified that PBAPS had followed the Technical Requirements Manual (TRM) and the FPP when compensatory measures were implemented for out-of-service, degraded or inoperable fire protection equipment, systems, or features. The inspectors verified: that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient combustible materials were managed in accordance with plant procedures; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. Documents reviewed during the inspection are listed in the Attachment. The inspectors toured the following areas:

- Unit 2 RB, General Area North - Elevation 135'-0" (Fire Zone 5H);
- Unit 2 Reactor Building (RB), General Area - Elevation 165'-0" (Fire Zone 5J);
- Unit 2 RB, General Area - Elevation 195'-0" (Fire Zone 5K);
- Unit 2 RB, 135' Elevation South (Fire Zone 5P);
- Unit 3 RB; General Area - Elevation 165'-0" (Fire Zone 13J); and
- Unit 2 RB, Refuel Floor - Elevation 234'-0" (Fire Zone 57).

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 - 1 Sample)

Internal Flood Protection

Inspection Scope

The inspectors reviewed selected risk-important plant design features intended to protect the plant and its safety-related equipment from flooding events. The inspectors reviewed the flood analysis and UFSAR. The inspectors walked down the interior of the cardox room in the EDG building with PBAPS engineering personnel to evaluate the condition of penetration seals, watertight doors, and other flood protection design features. The inspectors also verified that PBAPS personnel initiated IRs to enter the identified discrepancies into the CAP. The IRs and other documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11Q - 1 Sample)

Resident Inspector Quarterly Review

a. Inspection Scope

On April 18, 2011, the inspectors observed a simulator-based licensed operator evaluation, during regualification training, to assess licensed operator performance and the evaluator's post-scenario critique. The inspectors evaluated crew performance in the areas of:

- Clarity and formality of communications;
- Ability to take timely actions;
- Prioritization, interpretation, and verification of alarms;
- Procedure usage;
- Timely control board manipulations with a focus on high-risk operator actions;
- Shift supervisor command and control, including identification and implementation of Technical Specifications (TSs), event classification, and emergency response actions; and
- Group dynamics involved in crew performance.

The inspectors verified that any crew performance issues and weaknesses were discussed in the post-scenario critique. The inspectors also verified simulator physical fidelity, to ensure that the simulator arrangement closely paralleled the main control room (MCR). Documents reviewed during the inspection are listed in the Attachment. These activities constituted one quarterly licensed operator requalification training program inspection sample.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q - 2 Samples)

a. Inspection Scope

The inspectors evaluated PBAPS's work practices and follow-up corrective actions for safety-related structures, systems, and components (SSCs) and identified issues to assess the effectiveness of PBAPS's maintenance activities. The inspectors reviewed the performance history of SSCs and assessed PBAPS's extent-of-condition determinations for those issues with potential common cause or generic implications to evaluate the adequacy of the PBAPS's corrective actions. The inspectors assessed PBAPS's problem identification and resolution (PI&R) actions for these issues to evaluate whether PBAPS had appropriately monitored, evaluated, and dispositioned the issues in accordance with Exelon procedures, including ER-AA-310, "Implementation of the Maintenance Rule," and the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance." In addition, the inspectors reviewed selected SSC classifications, performance criteria and goals, and PBAPS's corrective actions that were taken or planned, to evaluate whether the actions were reasonable and appropriate. The inspectors performed the following two samples:

- Unit 2 Reactor Building Closed-Cooling Water System (RBCCW) unavailability limit exceeded (IR 1169733); and
- Manhole (MH) 60 water level is above limit (IR 1206494).

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 4 Samples)

a. Inspection Scope

The inspectors evaluated PBAPS's implementation of the Maintenance Risk Program with respect to the effectiveness of risk assessments performed for maintenance activities that were conducted on SSC's. The inspectors also verified that PBAPS managed the risk in accordance with 10 CFR Part 50.65(a)(4) and procedure WC-AA-101, "On-line Work Control Process." The inspectors evaluated whether PBAPS had taken the necessary steps to plan and control emergent work activities and to manage overall plant risk. The inspectors selectively reviewed PBAPS's use of the online risk monitoring software and daily work schedules. Documents reviewed during the inspection are listed in the Attachment. The activities selected were based on plant

maintenance schedules and systems that contributed to risk. The inspectors completed four evaluations of maintenance activities on the following:

- Unit 3 High Pressure Coolant Injection System (HPCI) planned maintenance (Clearance 11000628);
- Unit 3 unplanned half scram during Average Power Range Monitoring System (APRM) #4 surveillance testing (work order (WO) R1178116);
- Unit 2 control rod 02-35 drift and unplanned entry into off normal procedure for a rod drift, ON-121 (IR 1222498); and
- Unplanned entry into SE procedure (SE)-16, "Grid Emergency," due to receipt of a maximum generation action issued by PJM (load dispatcher/grid operator IR 1222821).

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 - 6 Samples)

a. Inspection Scope

The inspectors reviewed six issues to assess the technical adequacy of the operability determinations (ODs), the use and control of compensatory measures, and compliance with the licensing and design bases. Associated adverse condition monitoring plans (ACMPs), engineering technical evaluations, and operational and technical decision making (OTDM) documents were also reviewed. The inspectors verified these processes were performed in accordance with the applicable administrative procedures and were consistent with NRC guidance. Specifically, the inspectors referenced procedure OP-AA-108-115, "ODs," and NRC Inspection Manual Chapter (IMC) Part 9900, "ODs & Functionality Assessments for Resolutions of Degraded or Nonconforming Conditions Adverse to Quality or Safety." The inspectors also used TSs, TRM, UFSAR, and associated DBDs as references during these reviews. Documents reviewed during the inspection are listed in the Attachment. The following degraded equipment issues were reviewed:

- Unit 2 Condenser Leakage ACMP, Revision 3 (IR 1171316-10);
- Unit 3 Condensate and Reactor Chemistry Limits and Actions ACMP, Revision 1 (IR 1181380-06);
- 2 'B' D003-1 Battery Charger Failure (IR 1210275);
- Control Rod 38-03 Stuck (IR 1212944);
- E-2 EDG voltage oscillations during scheduled load run (IR 1220717); and
- Receipt of NRC Task Interface Agreement for Spent Fuel Pool (SFP) Boraflex Degradation (IR 1225431).

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 - 1 Sample)

Temporary Modification

a. Inspection Scope

The inspectors reviewed the following temporary modification to ensure that it did not adversely affect the availability, reliability, or functional capability of any risk significant SSCs, and to verify that modification implementation did not place the plant in an unsafe condition. The inspectors reviewed the applicable engineering change request (ECR), supporting documentation, and discussed the modification with engineering and maintenance, and operations personnel. The control of the modifications was compared to the regulatory requirements, regulatory guidance documents for on-line leak repairs, industry standards, and PBAPS procedural requirements. The inspectors also verified that the leak repair plan was consistent with the modification documentation and that the drawings, and that the post-installation testing was adequate. Documents reviewed during the inspection are listed in the Attachment.

- TCCP ECR 09-00484, "Low Steam Flow Isolation Setpoint Lowered to Provide Additional Operation Margin Due to Unit 2 Recombiner Steam Flow Slowly Decreasing," Revision 1.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 - 6 Samples)

a. Inspection Scope

The inspectors reviewed completed test records or observed selected post-maintenance testing (PMT) activities. The inspectors verified whether the tests were performed in accordance with the approved procedures or instructions and assessed the adequacy of the test methodology based on the scope of maintenance work performed. In addition, the inspectors assessed the test acceptance criteria to evaluate whether the test demonstrated that components satisfied the applicable design and licensing bases and the TS requirements. The inspectors reviewed the recorded test data to verify that the acceptance criteria were satisfied. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed six PMTs performed in conjunction with the following maintenance activities:

- Structural and electrical inspections following pumping water out of MH 64 after it was found to have an unacceptable water level (WO R1174133-39);
- E-1 EDG lubricating oil temperature switch replacement (WO C0237857);
- 2 'A' turbine building closed cooling water pump coupling preventative maintenance and pump bearing oil change (R1132701);
- 2 'B' D003-1 battery charger post-maintenance test following troubleshooting and maintenance (WO C0238132);
- 2 'A' CS loop pump, valve, flow, and cooler functional and inservice test following planned maintenance (Clearance 11000926); and
- Post-maintenance test following the repair of a leak on the Unit 3 HPCI steam supply pressure sensing line (WO C0238736).

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 - 5 Samples)a. Inspection Scope (3 Routine Surveillances; 1 Reactor Coolant System (RCS) Leak Detection; and 1 Inservice Testing (IST) Sample)

The inspectors reviewed or observed selected portions of the following surveillance tests (STs), and compared test data with established acceptance criteria to verify the systems demonstrated the capability of performing the intended safety functions. The inspectors also verified that the systems and components maintained operational readiness, met applicable TS requirements, and were capable of performing design basis functions. Documents reviewed during the inspection are listed in the Attachment. The five STs reviewed or observed included:

- RT-O-100-505-2, Emergency Operating Procedure Tool Inventory, Revision 30;
- RT-O-28B-800-2, Revision 16, River Temperature and Flow Monitoring and Test;
- ST-O-020-560-2/3, Units 2 & 3 - Reactor Coolant Leakage (RCL) Test [1 RCS Leakage sample];
- ST-O-032-301-3, HPSW Pump, Valve and Flow Functional and Inservice Test [1 IST sample]; and
- ST-O-052-313-2, E-3 Diesel Generator Slow Start Full Load and IST Test [IST].

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)1EP6 Drill Evaluation (71114.06 - 1 Sample)Drill Observation (1 Drill/EV Sample)a. Inspection Scope

On June 21, the inspectors observed licensee performance during the hostile action based (HAB) site emergency preparedness exercise in the security central alarm station (CAS), in the alternate technical support center (ATSC), and at the incident command post (ICP). Additionally, an operations crew was located in the simulated control room to simulate the response actions that would be taken in the MCR during an actual HAB event. The inspectors noted that prior to the HAB exercise, the licensee determined that the exercise would not be counted against the Drill and Exercise Performance Indicator (PI). The inspectors observed security response actions in the CAS. The inspectors also observed CAS coordination with the simulated MCR, up to and including the declaration of a Site Area Emergency (HS1: Hostile Action within the Protected Area), followed later by the declaration of a General Emergency (HG1: Hostile Action resulting in the loss of physical control of the facility). After the emergency response organization (ERO) was called out in response to the simulated event, the inspectors observed PBAPS personnel activate and man the ATSC to communicate with and provide

technical support to the shift manager in the simulator control room. The inspectors also observed PBAPS personnel coordinate response actions with local law enforcement agency personnel in the ICP. The inspectors also observed portions of the post-exercise/drill critique to verify that issues observed by the inspectors were also identified by the licensee's evaluators. The inspectors verified that the licensee entered the issues identified during the critiques into the CAP. This inspection activity constituted one drill sample for Inspection Procedure (IP) 71114.06.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2RS01 Access Control to Radiologically Significant Areas (71124.01)

a. Inspection Scope

The inspectors reviewed selected activities, and associated documentation, in the below listed areas. The evaluation of PBAPS's performance was against criteria contained in 10 CFR Part 20, applicable TSs, and applicable station procedures.

Inspection Planning

The inspectors reviewed PIs for the Occupational Exposure cornerstone.

Radiological Hazard Assessment

The inspectors conducted walk-downs of the facility, including the dry-active waste collection location including associated yard area, to evaluate material and radiological conditions. The inspectors made independent radiation measurements to verify conditions.

Contamination and Radioactive Material Control

The inspectors selectively observed locations where the licensee monitors potentially contaminated material leaving the radiological controlled area, and inspected the methods used for control, survey, and release from these areas. The inspectors selectively evaluated the radiation monitoring instrumentation sensitivity, based on 10 CFR Part 61 waste stream analyses, for the type(s) of radiation present.

Radiological Hazards Control and Work Coverage

The inspectors toured the facility and evaluated ambient radiological conditions (e.g., radiation levels or potential radiation levels).

The inspectors conducted selective inspection of posting and physical controls for high radiation areas, to the extent necessary to verify conformance with the Occupational PI.

Problem Identification and Resolution

The inspectors selectively verified that problems associated occupational exposure and access control were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee CAP. (See Section 40A2)

b. Findings

No findings were identified.

Cornerstone: Occupational and Public Radiation Safety (OS and PS)

2RS05 Radiation Monitoring Instrumentation (71124.05)

a. Inspection Scope

Inspection Planning

The inspectors selectively reviewed the plant UFSAR to identify radiation instruments associated with monitoring radiological conditions (process streams and effluents).

The inspectors obtained copies of licensee and third-party (independent) evaluation reports of the radiation monitoring program since the last inspection, including audits of the licensee's offsite calibration facility (if applicable). The inspectors reviewed the reports for insights into the licensee's program and to aid in selecting areas for review.

Walk-downs and Observations

The inspectors walked down the stack effluent radiation monitoring systems. The inspectors focused on any flow measurement devices. The inspectors selectively verified that effluent/process monitor configurations align with the offsite dose calculation manual (ODCM) descriptions. The inspectors looked for monitor degradation and out-of-service tags including apparent by-pass of sampling systems. The inspectors observed sample media as it was collected.

Calibration and Testing Program

Process and Effluent Monitors

The inspectors selectively reviewed calibration, function testing, and checking of the liquid effluent, Unit 2 and 3 service water, and Unit 2 and 3 plant vent and main stack monitors to verify that channel calibration, functional tests, and source checks were performed consistent with radiological effluent TSs (Radiological Effluent Technical Specification (RETS)/ODCM.)

PI&R

The inspectors selectively reviewed problems associated with radiation monitoring instrumentation to determine if problems were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. (See Section 40A2)

Findings

No findings were identified.

Cornerstone: Public Radiation Safety (PS)

2RS06 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

a. Inspection Scope

Inspection Planning and Program Reviews

The inspectors performed in-office preparation before the inspection associated with review of effluent and environmental reports (2009, 2010) and the UFSAR, as well as the ODCM.

Event Report and Effluent Report Reviews

The inspectors selectively reviewed the latest Annual Radiological Effluent Release Report (2010) issued since the last inspection to determine if the report was submitted as required by the ODCM/TSSs. The review was conducted to note any anomalous results, unexpected trends or abnormal releases identified by the licensee for further inspection to determine if they were evaluated, were entered in the CAP, and were adequately resolved.

The inspectors reviewed onsite radioactive effluent monitor operability issues reported by the licensee as provided in effluent release reports, as warranted, given their relative significance. The inspectors determined if the issues were entered into the CAP and adequately resolved.

ODCM and UFSAR Reviews

The inspectors selectively reviewed changes to the ODCM (Revision 13) made by the licensee since the last inspection. The inspectors selectively reviewed changes against the guidance in NUREG-1302 and 0133, and Regulatory Guides (RGs) 1.109, 1.21, and 4.1. The inspectors reviewed the technical basis or evaluations of any changes during the onsite inspection, as applicable.

The inspectors determined if the licensee had identified, since the last inspection, any non-radioactive systems that have become contaminated as disclosed either through a corrective action document, an event report, or as documented in the ODCM since the last inspection. The inspectors reviewed any 10 CFR 50.59 evaluations, as applicable, that had been performed for systems that had been identified as contaminated since the last inspection. The inspectors determined, as applicable, if any newly contaminated systems had an unmonitored effluent discharge path to the environment, whether any required ODCM revisions were made to incorporate these new pathways and whether the associated effluents were reported in accordance with RG 1.21.

Groundwater Protection Initiative (GPI) Program

The inspectors selectively reviewed reported groundwater monitoring results since the previous inspection, and changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater. The inspectors also reviewed the licensee's groundwater monitoring report included with its 2010 Annual Radiological Environmental Operating Report.

The inspectors selectively reviewed and discussed monitoring results of the GPI to determine if the licensee had implemented its program as intended and to identify any anomalous or missed results and to determine if the licensee had identified and addressed deficiencies through its CAP.

Procedures, Special Reports, and Other Documents

The inspectors selectively reviewed and discussed, as available, event reports and/or special reports related to the effluent program issued since the previous inspection to identify any additional focus areas.

The inspectors selectively reviewed effluent program implementing procedures, particularly those associated with effluent monitor calibration and functional testing.

The inspectors selectively reviewed, as available, copies of licensee and third party (independent) evaluation reports of the effluent monitoring program since the last inspection. The inspectors reviewed the reports for insights into the licensee's program and to aid in selecting areas for review. The inspectors reviewed licensee Check-In assessments and Quality Assurance (QA) audits.

Walk-downs and Observations

The inspectors selectively walked down and evaluated the material condition of the station stack sampling systems during observation of sample collection. The inspectors observed gaseous effluent sample collection and analysis for the station stack.

Sampling and Analyses

The inspectors discussed the licensee's effluent sampling activities and efforts to ensure collection of representative samples. The inspectors selected the stack monitor to verify that adequate controls were implemented to ensure representative samples were obtained (e.g., detection of filter by-pass).

The inspectors discussed effluent discharges made with inoperable (declared out-of-service) effluent radiation monitors, as applicable, to ensure controls were in-place to ensure compensatory sampling is performed consistent with the RETS/ODCM and that the controls were adequate to prevent the release of unmonitored liquid and gaseous effluents.

The inspectors evaluated monitor availability to determine whether the facility was routinely relying on the use of compensatory sampling in lieu of adequate system maintenance, based on the frequency of compensatory sampling since the last inspection.

Effluent Flow Measuring Instruments

The inspectors selectively reviewed the methodology the licensee used to calibrate and determine the effluent stack and vent flow rates including calibration data.

Dose Calculations

The inspectors selectively evaluated changes in reported dose values compared to the previous Radiological Effluent Release Report to evaluate the factors which may have resulted in the change.

The inspectors discussed changes in the ODCM dose calculations, since the last inspection, to verify any changes were consistent with the ODCM and RG 1.109. The inspectors selectively reviewed meteorological dispersion and deposition factors used in the ODCM and effluent dose calculations to ensure appropriate factors are being used for public dose calculations based on meteorological studies.

The inspectors selectively reviewed the latest Land Use Census (2010) to verify that changes (e.g., significant increases or decreases to population in the plant environs, changes in critical exposure pathways, the location of nearest member of the public or critical receptor, etc.) had been factored into the dose calculations.

The inspectors selectively evaluated public dose projections to verify that the calculated doses (monthly, quarterly, and annual dose) were within 10 CFR Part 50, Appendix I, and TS dose criteria.

The inspectors discussed abnormal liquid or gaseous discharges. The inspectors evaluated monitoring of plant effluents at discharge points.

GPI Implementation

The inspectors verified that the licensee was continuing to implement the voluntary Nuclear Energy Institute (NEI)/Industry GPI.

The inspectors selectively reviewed identified leakage or spill events and entries made into 10 CFR 50.75 (g) records, since the last inspection, to review any remediation action taken for effectiveness.

The inspectors evaluated whether sufficient radiological surveys were performed to evaluate the extent of the contamination and the radiological source term.

PI&R

The inspectors verified that problems associated with the effluent monitoring and control program were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee CAP. (See Section 4OA2)

2RS07 Radiological Environmental Monitoring Program (REMP) (71124.07)

a. Inspection Scope

Inspection Planning

The inspectors selectively reviewed the Annual Radiological Environmental and Effluent Operating Reports (2009 and 2010) and the results of licensee assessments since the last inspection, to verify that the REMP was implemented in accordance with the TS and ODCM. The inspectors reviewed the report for changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, Land Use Census, inter-laboratory comparison program, program exceptions, and analysis of data.

The inspectors selectively reviewed the ODCM to identify locations of environmental monitoring stations.

The inspectors selectively reviewed the UFSAR for information regarding the environmental monitoring program and meteorological monitoring instrumentation.

The inspectors selectively reviewed available QA audit results of the program. The inspectors selectively reviewed any audits and technical evaluations performed on the licensee's vendor's program, as applicable, if used to analyze REMP samples.

Site Inspection

The inspectors verified that the licensee had initiated, as appropriate, sampling of other appropriate media upon loss of a required sampling station.

Based on direct observation and review of records, the inspectors selectively verified that the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the UFSAR, NRC RG 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants," and licensee procedures. The inspectors verified that the meteorological data readout and recording instruments in the control room and at the tower were operable. The inspectors toured the meteorological tower.

The inspectors verified that missed and or anomalous environmental samples were identified and reported in the annual environmental monitoring report. As available, the inspectors selected events that involved a missed sample, inoperable sampler, lost thermoluminescence dosimeter, or anomalous measurement, and verified that the licensee had identified the cause and had implemented corrective actions. The inspectors reviewed the licensee's assessment of any positive sample results (i.e., licensed radioactive material detected above the lower limits of detection (LLDs). The inspectors reviewed, as appropriate, the associated radioactive effluent release data that was the source of the released material, as applicable.

The inspectors selected and discussed SSCs that involve or could reasonably involve licensed material for which there is a credible mechanism for licensed material to reach groundwater, and verified that the licensee had implemented a sampling and monitoring program (new well installations) sufficient to detect leakage of these SSCs to groundwater. The inspectors discussed new monitoring well locations to support groundwater monitoring efforts.

The inspectors verified that records, as required by 10 CFR 50.75(g), of leaks, spills, and remediation since the previous inspection were retained in a retrievable manner.

The inspectors selectively reviewed any significant changes made by the licensee to the ODCM as the result of changes to the land census, long-term meteorological conditions (e.g., 3-year average), or modifications to the sampler stations since the last inspection. The inspectors reviewed technical justifications for any changed sampling locations.

The inspectors evaluated detection sensitivities with respect to the TS/ODCM used for counting samples (i.e., the samples meet the TS/ODCM required LLDs).

Identification and Resolution of Problems

The inspectors determined if problems associated with the REMP were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the CAP. In addition to the above, the inspectors verified the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involve the REMP. (See Section 4OA2)

b. Findings

No findings were identified.

2RS08 Radioactive Solid Waste Processing and Radioactive Material, Handling Storage, and Transportation (71124.08)

a. Inspection Scope

Inspection Planning

The inspectors discussed the inspection schedule with the licensee to coordinate observation of risk-significant activities.

The inspectors selectively reviewed the solid radioactive waste system description in the Final Safety Analysis Report (FSAR), the Process Control Program (PCP), and the recent radiological effluent release reports for information on the types, amounts, and processing of radioactive waste disposed.

The inspectors selectively reviewed the scope of any QA audits in this area since the last inspection to gain insights into the licensee's performance and inform the "smart sampling" inspection planning.

Radioactive Material Storage

The inspectors selectively reviewed areas where containers of radioactive waste were stored, to verify that the containers were labeled in accordance with 10 CFR 20.1904, "Labeling Containers," or controlled in accordance with 10 CFR 20.1905, "Exemptions to Labeling Requirements," as appropriate.

The inspectors selectively toured the facility to verify that the radioactive materials storage areas were controlled and posted in accordance with the requirements of 10 CFR Part 20, "Standards for Protection against Radiation."

The inspectors selectively reviewed the licensee process for monitoring the impact of long-term storage (e.g., buildup of any gases produced by waste decomposition, chemical reactions, container deformation, loss of container integrity, or re-release of free-flowing water) to identify potential unmonitored, unplanned releases or nonconformance with waste disposal requirements.

Radioactive Waste System Walk-down

The inspectors selected accessible liquid and solid radioactive waste processing systems and walked down accessible portions of systems to verify and assess that the current system configuration and operation agree with the descriptions in the FSAR, ODCM, and PCP. The inspectors also selectively reviewed various photographs, live camera views, and radiological surveys to assess material conditions of rooms and tanks.

The inspectors discussed radioactive waste processing equipment that was not operational to determine if it was abandoned in place, and discussed if the licensee had established administrative and/or physical controls (i.e., drainage and isolation of the system from other systems) to ensure that the equipment would not contribute to an unmonitored release path and/or affect operating systems or be a source of unnecessary personnel exposure. The inspectors discussed if the licensee had reviewed the safety significance of systems and equipment abandoned in place in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments."

The inspectors selectively reviewed the adequacy of any changes made to the radioactive waste processing systems since the last inspection to verify that changes from what is described in the FSAR were reviewed and documented in accordance with 10 CFR 50.59, as appropriate. The inspectors selectively reviewed and discussed the impact, if any, on radiation doses to workers or members of the public.

The inspectors selected the processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers. The inspectors visually inspected the resin sampling system. The inspectors verified (for the selected processes) that the waste stream mixing, sampling procedures, and methodology for waste concentration averaging were consistent with the PCP, and provide representative samples of the waste product for the purposes of waste classification as described in 10 CFR 61.55, "Waste Classification."

The inspectors discussed and evaluated, for those systems that provide tank recirculation, that the tank recirculation procedure and means used, provided sufficient mixing.

The inspectors reviewed the licensee's PCP to determine if it correctly describes the current methods and procedures for dewatering and waste stabilization (e.g., removal of freestanding liquid).

Waste Characterization and Classification

The inspectors selected radioactive waste streams (e.g., dry active waste, ion exchange resins, mechanical filters, sludges, and activated materials), to verify that the licensee's radiochemical sample analysis results were sufficient to support radioactive waste characterization as required by 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste." The inspectors selectively verified that the licensee's use of scaling factors and calculations to account for difficult-to-measure radionuclides was technically sound and based on current 10 CFR Part 61 analyses.

The inspectors selectively verified that, for plant waste streams, changes to plant operational parameters were taken into account to (1) maintain the validity of the waste stream composition data between the annual or biennial sample analysis update, and (2) verify that waste shipments continue to meet the requirements of 10 CFR Part 61.

The inspectors reviewed the licensee's QA program to determine if the licensee had established and maintained an adequate QA program to ensure compliance with the waste classification and characterization requirements of 10 CFR 61.55 and 10 CFR 61.56, "Waste Characteristics."

Shipping Records

The inspectors selectively reviewed three non-excepted radioactive material package shipments (PM-10-009, PW-09-017, and PW-10-009). The inspectors verified that the shipping documents indicate the proper shipper name; emergency response information and a 24-hour contact telephone number; accurate curie content and volume of material; and appropriate waste classification, transport index, and UN number, as applicable. The inspectors discussed the shipment placarding, as applicable, to determine if it was consistent with the information in the shipping documentation. The inspectors selectively confirmed, by hand calculation, radionuclide content of packages based on current 10 CFR Part 61 analyses.

Identification and Resolution of Problems

The inspectors determined if problems associated with radioactive waste processing, handling, storage, and transportation, were being identified by the licensee at an appropriate threshold, are properly characterized, and are properly addressed for resolution in the licensee's CAP. In addition, the inspectors verified the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involve radioactive waste processing, handling, storage, and transportation.

The inspectors reviewed the results of selected audits, performed since the last inspection of this program, to evaluate the adequacy of the licensee's corrective actions for issues identified during those audits.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151 - 4 Samples)

Cornerstone: Barrier Integrity

Barrier Integrity PIs

a. Inspection Scope

The inspectors reviewed a sample of PBAPS's submittals for the four Barrier Integrity PIs listed below to verify the accuracy of the data reported. The PI definitions and the guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 6, and Exelon procedure LS-AA-2001, "Collecting and Reporting of NRC PI Data," were used to verify that the reporting requirements were met. The inspectors reviewed PI data collected from January 2010 to April 2011. The inspectors compared the graphical representations from the most recent PI report available from the NRC public website to the raw PI data to verify the data was properly included in the report. The PIs reviewed were:

- Unit 2 and Unit 3 RCS specific activity (BI01); and
- Unit 2 and Unit 3 RCS leakage (BI02).

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (PI&R) (71152 - 2 Samples)

.1 Review of Items Entered into the CAP

a. Inspection Scope

As required by IP 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed screening of all items entered into the licensee's CAP. This was accomplished by reviewing the description of each new action request (AR)/IR and attending daily management review committee meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Review to Identify Trends (1 Semi-Annual Trend Sample)

a. Inspection Scope

The inspectors reviewed lists of CAP items to identify trends (either NRC or licensee identified) that might indicate the existence of a safety issue. First, the inspectors reviewed a list of approximately 7,200 IRs that PBAPS initiated and entered into the CAP action tracking system (Passport) from December 1, 2010, through June 1, 2011.

The inspectors also reviewed approximately 2,250 open IRs in the CAP that remained open with outstanding actions. The list was reviewed and screened to complete the required semi-annual PI&R trend review. Based on the review, a sample of Passport IRs (listed in Attachment 1) were selected for a more detailed review to verify whether the issues were adequately identified and evaluated, and that corrective actions were planned. The inspectors evaluated the IRs against the requirements of Exelon procedure, LS-AA-125, and 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."

b. Findings and Observations

No findings were identified. During this trend review period, the inspectors noted a significant event involving the Unit 2 HPCI discharge piping being continuously drained through a leaking relief valve (IR 1188457). An apparent cause evaluation (ACE) was performed for this event. Additional discussion of this event is documented in this report, Sections 4OA3 and 4OA7. The inspectors concluded that the performance of this ACE was appropriate. Several configuration control issues (IRs 1162006, 1222585, 1200382, 1173391 and 1173150) were identified during this trend assessment period. PBAPS appropriately initiated a common cause analysis (CCA) to assess an adverse trend in the number of configuration control events during 2010 and 2011 (IR 1203953).

The inspectors observed that PBAPS took appropriate action to perform CCA's of four additional human performance related trends. The first involved an adverse trend in industrial safety performance (IR 1203002). The second involved human performance contributions to rework issues (IR 1170201). The third involved an increase in the number of missed drill and exercise PI calls by operating crews (IR 1191109). The fourth was related to inadequacies of corrective actions to address radiochemistry deficiencies (IR 1212810).

The inspectors noted additional adverse trends related to the following subject areas: 46 fatigue assessments for work hour waivers with most being for security officers; continued instances of ESW system corrosion and reduced wall thickness (IR 1232678, IR 1233403), 92 issues related to water intrusion into MHs containing underground cables, 43 issues related MH level transmitter deficiencies, and issues related to assuring operability of Units 2 and 3 SFPs (IR 1225431, IR 1225840). However, based on the overall review of the selected sample, the inspectors concluded that PBAPS was: appropriately identifying and entering issues into the CAP, adequately evaluating the identified issues, and acceptably identifying adverse trends before they became more safety significant problems.

.3 Review of Operator Work Arounds (OWAs) (1 OWA Sample)

a. Inspection Scope

As required by IP 71152, "Identification and Resolution of Problems," the inspectors conducted a review of the OWA program to verify that PBAPS was identifying OWA problems at an appropriate threshold, have entered them in the CAP, and proposed or implemented appropriate corrective actions. The inspectors reviewed the list of OWAs and operator challenges (OCs) identified and managed in accordance with Exelon Procedure, OP-AA-102-103, "OWA Program." Specifically, the review was conducted to determine if any OWAs for mitigating systems affected the mitigating system's safety

functions or affected the operators' ability to implement abnormal and emergency operating procedures. The inspectors reviewed the following open OWAs being tracked by PBAPS:

- Unit 2 main steam control valve to recombiner isolated requiring manual control of recombiner steam flow (AR A1778819).

The inspectors also reviewed the lists of open OCs (deficiencies that are obstacles to normal plant operations), periodically walked down the panels in the MCR, and have reviewed control room deficiencies to identify and be cognizant of (1) OWAs that have not been evaluated by PBAPS, and (2) OWAs that increase the potential for personnel error, including OWAs that:

- Require operations contrary to past training or require more detailed knowledge than routinely provided;
- Require a change from longstanding operational practices;
- Require operation of a system or component in a manner different from similar systems or components;
- Create the potential for the compensatory action to be performed on equipment or under conditions for which it is not appropriate;
- Impair access to required indications, increase dependence on oral communications, or require actions under adverse environmental conditions; and
- Require the use of equipment and interfaces that have not been designed with consideration of the task being performed.

The inspectors interviewed operators to determine if any compensatory actions they routinely take are (or should be) categorized as workarounds/challenges. Finally, the inspectors reviewed current operator turnover documentation to determine if there are documented compensatory actions that should be categorized as workarounds or challenges.

b. Findings

No findings were identified.

The inspectors determined that Peach Bottom's OWA program was appropriately managing risk and correcting control room deficiencies, operator challenges, and operator workarounds.

.4 Occupational Radiation Safety Program (71124.01, 71124.05, 71124.06, 71124.07, 71124.08)

a. Inspection Scope

The inspectors selectively reviewed corrective action documents for the occupational radiation safety program and effluent and environmental monitoring program. See documents reviewed.

The review was against criteria contained in 10 CFR Part 20, TSs, ODCM, and applicable station audit and surveillance procedures.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153 - 1 Sample)

(Closed) Licensee Event Report (LER) 05000277/2011001-00, HPCI System Inoperable Due to Leaking Cooling Water Header Relief Valve

On March 16, 2011, PBAPS personnel declared the Unit 2 HPCI system inoperable as a result of the discovery of voiding in a portion of the Unit 2 HPCI pump discharge piping while the HPCI system suction was aligned to the suppression pool. PBAPS personnel determined that the leak was from the Unit 2 HPCI cooling water header relief valve (RV-2-23B-066). When HPCI was aligned to the suppression pool as the suction source, this leakage was sufficient to create voids in the HPCI discharge piping. The relief valve was replaced and HPCI was declared operable on March 18, 2011. Since it is possible that a void induced water hammer could have caused damage to the Unit 2 HPCI system discharge piping during a design basis event, the licensee concluded that a deterministic loss of system safety function occurred. This event also resulted in a condition prohibited by TSs due to Unit 2 HPCI being inoperable for a time period greater than allowed by TS. The enforcement aspects of this LER review are documented in Section 4OA7. The inspectors reviewed this LER and did not identify any additional violations. This LER is closed.

4OA5 Other Activities

.1 (Closed) NRC Temporary Instruction (TI) 2515/183, "Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event"

a. Inspection Scope

The inspectors assessed the activities and actions taken by the licensee to assess its readiness to respond to an event similar to the Fukushima Daiichi nuclear plant fuel damage event. This included (1) an assessment of the licensee's capability to mitigate conditions that may result from beyond design basis events, with a particular emphasis on strategies related to the SFP, as required by NRC Security Order Section B.5.b issued February 25, 2002, as committed to in severe accident management guidelines, and as required by 10 CFR 50.54(hh); (2) an assessment of the licensee's capability to mitigate station blackout conditions, as required by 10 CFR 50.63 and station design bases; (3) an assessment of the licensee's capability to mitigate internal and external flooding events, as required by station design bases; and (4) an assessment of the thoroughness of the walkdowns and inspections of important equipment needed to mitigate fire and flood events, which were performed by the licensee to identify any potential loss of function of this equipment during seismic events possible for the site.

Inspection Report (IR) 05000277/2011009, 05000278/2011009 (ML111300540) documented detailed results of this inspection activity.

b. Findings

No findings were identified.

.2 (Closed) NRC TI 2515/184, "Availability and Readiness Inspection of Severe Accident Management Guidelines (SAMGs)"

a. Inspection Scope

On May 12, 2011, the inspectors completed a review of the licensee's SAMGs, implemented as a voluntary industry initiative in the 1990's, to determine (1) whether the SAMGs were available and updated, (2) whether the licensee had procedures and processes in place to control and update its SAMGs, (3) the nature and extent of the licensee's training of personnel on the use of SAMGs, and (4) licensee personnel's familiarity with SAMG implementation.

The results of this review were provided to the NRC task force chartered by the Executive Director for Operations to conduct a near-term evaluation of the need for agency actions following the Fukushima Daiichi fuel damage event in Japan. Plant-specific results for PBAPS were provided in an Attachment to a memorandum to the Chief, Reactor Inspection Branch, Division of Inspection and Regional Support, dated May 27, 2011 (ML111470361).

b. Findings

No findings were identified.

.3 (Closed) NRC TI 2515/179, "National Source Tracking System (NSTS)"

a. Inspection Scope

During the period April 5-8, 2011, the inspectors conducted the following activities to confirm the inventories of materials possessed at Peach Bottom were appropriately reported and documented in the NSTS in accordance with 10 CFR 20.2207.

Inspection Planning

The inspectors retrieved and reviewed a copy of the licensee's submitted NSTS source inventory. The inspectors also reviewed reconciliation reports.

Inventory Verification

The inspectors performed a physical inventory of the sources listed on the licensee's inventory to identify each source listed on the inventory.

The inspectors verified the presence of the nationally tracked sources by conducting a radiation survey of the source shield, as possible, and discussions with personnel.

The inspectors examined the physical condition of the source containers, evaluated the effectiveness of the procedures for secure storage and handling, discussed maintenance of the device including source leak tests, and verified the posting and labeling of the source was appropriate.

The inspectors reviewed licensee records for the source and compared the records with the data from the NSTS source inventory. The inspectors evaluated the effectiveness of procedures for updating the inventory records.

Determine the Location of Unaccounted-for Nationally Tracked Source(s)

The inspectors reviewed the licensee's source inventory and verified Peach Bottom has no unaccounted-for source(s).

Review of Other Administrative Information

The inspectors reviewed the administrative information contained in the NSTS inventory printout with licensee personnel to determine if all administrative information (e.g., mailing address, docket number, and license number) were correct. The inspectors discussed updates to the information.

b. Findings

No findings were identified.

.4 Unit 3 ISFSI Loading Campaign and Troubleshooting (IP 60855.1)

a. Inspection Scope

From May 23 - 27, two NRC region-based Decommissioning Branch inspectors conducted a review of activities associated with the loading of spent fuel from Unit 3 into a dry storage cask and placement of the cask at the Independent Spent Fuel Storage Installation (ISFSI). The inspectors utilized IP 60855.1 and documented the results of the inspection in a separate inspection report issued July 29, 2011 (NRC Region I ISFSI Inspection Report Nos. 05000277/2010010 and 05000278/2010010 (ML112101576)).

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

.1 Quarterly Resident Exit Meeting Summary

On July 29, 2011, the resident inspectors presented the inspection results to Mr. Garey Stathes, Peach Bottom Plant Manager, and other PBAPS staff, who acknowledged the findings. The inspectors asked the licensee whether any of the information discussed as being included in the report should be considered proprietary. No proprietary information was identified.

.2 Management Meetings

The inspectors presented the inspection findings for the radwaste processing and transportation inspection on April 8, 2011, and the radiological environmental monitoring and effluent programs inspection on June 10, 2011, to members of PBAPS's management. PBAPS personnel acknowledged the inspection findings. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy, for being dispositioned as a NCV:

- In Mode 1, with the HPCI system inoperable for more than 14 days, TS Limiting Condition for Operation 3.5.1 requires the unit to be in Mode 3 within 12 hours. Contrary to the above, the Unit 2 HPCI system was determined to be inoperable from approximately January 20 to March 18, 2011, with the reactor in Mode 1, due to a leaking relief valve (RV-2-23B-066) on the HPCI cooling water header. With HPCI aligned to the normal, non-safety-related, Condensate Storage Tank (CST) suction source, no voiding would occur in the HPCI discharge piping due to the higher elevation of the CST. However, during a subset of design basis events where HPCI suction would be transferred to the suppression pool, its alternate and safety-related suction source, and the HPCI pump secured, voiding could develop in the discharge piping. The licensee concluded that if HPCI was then restarted, a water hammer condition could potentially result and render Unit 2 HPCI unable to perform its deterministic design function. The voiding in the HPCI discharge piping had been discovered by PBAPS personnel during a ST while transferring Unit 2 HPCI suction from the CST to the suppression pool to support an I&C surveillance. The relief valve was replaced, and subsequent to testing, HPCI was declared operable on March 18, 2011.

The inspectors reviewed this condition using IMC 0609, Attachment 4, and in consultation with a Region I Senior Reactor Analyst (SRA), concluded the Unit 2 HPCI system would likely have been able to perform its Significance Determination Process safety function, given the numerous postulated equipment failures and specific system configurations that would have to occur to cause a system failure. Therefore, and as such this issue screened to very low safety significance. A Region I SRA also confirmed the very low significance (mid E-9 increase in core damage frequency) with a conservative analysis. This analysis assumed the HPCI system would have failed if the operators failed to refill the CST, and HPCI switched over to the torus suction, for the 58 day exposure period. The licensee documented the event in their CAP as IRs 1188457 and 1188987. The LER associated with this event was documented in Section 4OA3.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Generation Company Personnel

T. Dougherty, Site Vice President
G. Stathes, Plant Manager
J. Armstrong, Regulatory Assurance Manager
T. Moore, Site Engineering Director
P. Navin, Operations Director
J. Kovalchick, Security Manager
P. Cowan, Work Management Director
R. Holmes, Radiation Protection Manager
R. Reiner, Chemistry Manager
S. Hesse, NOS Manager

NRC Personnel

P. Krohn, Branch Chief
F. Bower, Senior Resident Inspector
N. Lafferty, Acting Resident Inspector
A. Ziedonis, Resident Inspector
C. Cahill, Senior Reactor Analyst
S. Hammann, Senior Health Physicist
D. Molteni, Senior Reactor Inspector
R. Nimitz, Senior Health Physicist

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSEDOpened

None

Opened/Closed

None

Closed

05000277/2011001-00	LER	HPCI System Inoperable Due to Leaking Cooling Water Header Relief Valve (Section 4OA3)
2515/183	TI	Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event (Section 4OA5.1)
2515/184	TI	Availability and Readiness Inspection of Severe Accident Management Guidelines (Section 4OA5.2)
2515/179	TI	National Source Tracking System (NSTS (Section 4OA5.3)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

SE-4, Revision 25, Flood Procedure
 SE-4 Bases, Revision 15, Flood Procedure Bases
 SE-16, Revision 8, Grid Emergency
 SE-16 Attachment A, Revision 4, PTGD/PSD Communications to Peach Bottom
 SE-16 Attachment B, Revision 1, Station Electrical Load Shed
 SE-16 Attachment C, Revision 0, LTC Functional Verification
 SE-16 Attachment D, Revision 2, Contingency Issues
 SE-16 Bases, Revision 9, Grid Emergency – Bases

OP-AA-108-107-1001, Revision 3, Station Response to Grid Capacity Conditions
 Op-AA-108-107-1002, Revision 5, Interface Procedure Between ComEd/PECO and Exelon
 Generation (Nuclear/Power) for Transmission Operations
 AO 50.7-2, Revision 10, Generator/Grid Stability and Reliability
 WC-AA-107, Revision 9, Seasonal Readiness
 IR 01181538, #2 L&P ABT Faulty
 IR 01189810, #1 XFMR ILB Light Not Lit
 IR 01190478, 220KV Control Essential Power XFER Switch
 IR 01190812, CB #SU25 Gas Compressor (SF6) Concerns
 IR 01196799, #1 XFMR B Phase Failed to Auto Swap to Emergency Power
 IR 01191887, Received North 500 Sub. Alarm Due to #1 Trans Relay Trouble
 IR 01196803, Left Control Cabinet Door Will Not Open on #1 XFMR A Phase
 IR 01201803, 5012 Line Transfer Trip Low Signal Alarm Frequently
 IR01030603, 343 SU Alarm and Lost Indication Due to Blown Fuse
 IR 01164998, SW #3G3 Increase Heating on 'C' Phase Ball Side Finger
 IR 01165359, SW #3G3 Increase Heating on 'C' Phase Ball Side Fingers
 IR 01191297, North 220KV Substation General Alarm
 IR 01191412, 220-08 Transfer Trip Alarmed
 IR 01196632, Switch #33 Closed per SO 51.1.A
 IR 01203450, Evaluate NERC Compliance for LD Radio Failure
 IR 01204438, PS01 End of Shift Critique

OP-AA-108-111-1001, "Severe Weather and Natural Disaster Guidelines"
 AO 50.1, "Response to Main Generator Perturbations Caused by Grid Disturbances"
 AO 53.2-0, Equipment Checks After a Thunderstorm
 IR 1207294, Peach Bottom Site Tracking for NER-NC-11-012-Y
 IR 1208950, Improvement Suggestion for Severe Weather Events
 IR 1208909, Gantry Crane 00H016 Not Tied Down During Tornado Warning
 IR 1211127, Tornado Tie Downs for Gantry Crane Need Repaired/Replaced
 IR 1208829, Harford County, MD ANS Siren Activation (Tornado Warning)
 IR 1208781, Unexpected MCR Alarms During Thunderstorm
 IR 1207974, Missed Entry into SE-16
 SO 48.1.B, Revision 13, Emergency Cooling Water System Startup
 P-T-07, External Hazards, Revision 2
 IR 563253 Potential External Flood Vulnerability – CW Pump Structure
 IR 554800 Potential External Flood Vulnerability Found for EDG Building
 IR 570723 CWPS Flood Program Vulnerability
 IR 574447 Create WO to Service and Position CWPS Roof Drain Valves

IR 778585 Enhance Procedures to Manage CW Structure Blow-Out Plugs
 *IR 1202656 Sump Vent Pipe in Pump Structure is Mislabeled
 IR 1120849, PBAPS AR for 2011 Site Summer Readiness Actions
 IR 1159421, 2011 Summer Readiness Action Tracking
 IR 1160353, Engineering Review for Summer Readiness 2011
 IR 1226634, PBAPS 2011 Summer Readiness Critique
 IR 1201919, Unable to Perform Cooling Tower Sections of Summer Readiness
 IR 1211342, Summer Readiness Contingent WO - 'A' Cooling Tower
 IR 1211347, Summer Readiness Contingent WO - 'B' Cooling Tower
 IR 1211356, Summer Readiness Contingent WO - 'B' Cooling Tower
 IR 1208432, ECR Restraint on Planning Summer Readiness WO Activity
 IR 1208372, Need ECR 08-00039 Approved for Summer Readiness WO C0205085
 IR 1219965, 'A' Cooling Tower Lift Pump Vibration during Coupled Run
 IR 1204340, Received Unit 3 High River Level Alarm PMS of 109.5' AO-28.2
 IR 1203852, Received Unit 3 High River Level Alarm PMS of 109.5' AO-28.2
 IR 1233243, Revision to SE-16 Required

* - Indicates NRC Identified

Section 1R04: Equipment Alignment

IR 1207957, Unexpected Alarm 'B' ESW Pump Trip during Elevator Maintenance
 IR 1190024, Air Leak on Control Valve for 'B' Loop CS Stay-fill
 M-362, Sheet 1, Revision 62, P&ID CS Cooling System
 SO 14.1.A-3, Revision 4, CS System Alignment for Automatic or Manual Operation
 SO 14.1.A-2B COL, Revision 10, CS System Loop 'B'

Section 1R05: Fire Protection

PF-5J, Revision 3, Unit 2 RB, General Area – Elevation 165'-0"
 PF-13J, Revision 2, Unit 3 RB, General Area – Elevation 165'-0"
 PF-5H, Revision 3, Unit 2 RB, General Area North – Elevation 135'-0"
 PF-5P, Revision 3, Unit 2 RB, 135' Elevation South
 PF-5K, Revision 4, Unit 2 RB, General Area – Elevation 195'-0"
 PF-57, Revision 4, Unit 2 RB, Refuel Floor – Elevation 234'-0"
 IR 1199739 Bent Sprinkler Piping Hanger Unit 2 Lube Oil Room
 IR 1199748 Broken Sprinkler Hanger, Brigade Locker
 IR 1199761 Cart Near Fire Protection Valve
 1199620 Replace Fire Hose Carts with Metal Storage Boxes

Section 1R06: Flood Protection Measures

IR 1197429, Penetration's Link Seal Not Fully within Barrier
 IR 1197438, Penetration's Link Seal Not Fully within Barrier
 IR 1201870, NER Flood Inspections – Some Areas Were Inaccessible
 NE-CG-265-3, Hazard Barrier Program Supporting Documentation
 DWG. PS-815, Penetration Seal Locations Controlled Barriers – Room No. 815, Diesel
 Generator Building, Elevation 127'-0"
 DWG. A-490 Barrier Plans, C.W. Pump Structure, Emergency Cooling Tower & Diesel
 Generator Building

Section 1R11: Licensed Operator Regualification Program

Requalification Scenario Guide, PSEG1001R, Revision 4
 TQ-AA-150-F09, Revision 2, Simulator Evaluation Form – CREW
 TQ-JA-150-13, Revision 0, Simulator Evaluation- Crew Competency Standards
 Requalification Remediation Plan
 IR 1204689, Crew Failed an Out-of-the-Box Evaluation
 IR 1205589, Simulator Component Replacement

Section 1R12: Maintenance Effectiveness

IR 1169733, Unit 2 RBCCW Maintenance Rule Train Unavailability Limit Exceeded
 IR 1227127, Replace RBCCW Heat Exchanger (HX) 2BE018
 IR 1162816, 2 'B' RBCCW HX Flange Face Degraded
 IR 1162431, 2 'B' RBCCW HX Plugging Limits Exceeded
 A1552281, 2 'A' RBCCW HX Plugging Limit Reached
 R0930987, Perform Eddy Current Test
 March 3, 2011 Weekly (Maintenance Rule) Expert Panel Meeting Minutes
 March 24, 2011 Weekly (Maintenance Rule) Expert Panel Meeting Minutes
 Peach Bottom Plan of Day Meeting Package, Friday, May 6, 2011
 IR 1213094, MH 60 in Alarm
 IR 1216383, MH-60 High Level Alarm
 IR 1217265, MH-60 in Alarm
 IR 1218073, MH-60 (Electrical MH) Alarming (Smartcover Web Monitor)
 IR 1218154, MH-60 in Alarm
 IR 1219880, MH-60 in Alarm
 IR 1222153, MH-60 Alarm at 5 Inches from Sensor
 IR 1227642, MH-60 High Level Alarm
 IR 1217685, MH-025C in Alarm
 IR 1218149, MH-025A in Alarm
 IR 1218150, MH-025D in Alarm
 IR 1218152, MH-035 in Alarm
 IR 1229694, Peach Bottom MH-005 in Alarm
 IR 1222514, Submerged Cables in HH-126
 IR 1222518, Submerged Cables in HH-127
 IR 1222526, Submerged Cables in HH-128
 IR 1222568, Submerged Cables in HH-68
 IR 1224340, 24" of Water in MH-084 Covering Cables
 IR 1224352, 5" of Water in MH-082 Covering Cables
 IR 1224364, 2' of Water in MH-076 Covering Cables
 IR 1224383, 3' of Water in MH-083 Covering Cables
 IR 1226311, Removed Cover for MH-104 to Inspect
 IR 1226297, Removed Cover for MH-100 to Inspect
 IR 1226286, Removed Cover for MH-088 to Inspect
 IR 1226279, Removed Cover for MH-079 to Inspect
 IR 1226267, Removed Cover for MH-104 to Inspect
 IR 1227643, MH-061 Has a High Level Alarm
 IR 1227644, MH-026A Has a High Level Alarm
 IR 1227645, MH-026C Has a High Level Alarm
 IR 1227646, MH-025A Has a High Level Alarm
 IR 1227647, MH-025B Has a High Level Alarm

IR 1227648, MH-025C Has a High Level Alarm
 IR 1227649, MH-025D Has a High Level Alarm
 IR 1227660, MH-035 Has a High Level Alarm
 IR 1225320, 3' of Water in MH-075
 IR 1228376, 17" of Water in MH-049
 IR 1228378, 29" of Water in MH-087
 IR 1229352, 48" of Water in MH-094
 IR 1229524, 25" of Water in MH-069
 IR 1229518, 48" of Water in MH-043 Plus FME
 IR 1223719, 6" of Water in MH-066 Touching Cables
 IR 1225820, 4' of Water in MH-102 Covering Cables
 IR 1227943, 15" of Water in MH-051 Covering Cables
 IR 1225325, MH Full of Water (MH-081)
 IR 1225790, Water in MH
 IR 1213555, MH Water Level Unacceptable
 IR 1221773, MH-035 Intrusion Alarm at 31"
 IR 1218079, MH-025D (Electrical MH) Alarming (SmartCover Web Monitor)
 IR 1218084, MH-025A (Electrical MH) Alarming (SmartCover Web Monitor)
 IR 1214079, MH-17A Pump out Required per Operability Evaluation
 IR 1214092, MH-17B Pump out Required per Operability Evaluation
 IR 1214095, MH-18A Pump out Required per Operability Evaluation
 IR 1214101, MH-18B Pump out Required per Operability Evaluation
 IR 1214116, MH-90 Pump out Required per Operability Evaluation
 IR 1214101, MH-91A Pump out Required per Operability Evaluation
 IR 1214132, MH-91B Pump out Required per Operability Evaluation
 IR 1214136, MH-91C Pump out Required per Operability Evaluation
 IR 1214159, MH-089 Pump out Required per Operability Evaluation
 IR 1228962, MH-16A Pump out Required per Operability Evaluation
 IR 1228966, MH-16B Pump out Required per Operability Evaluation
 IR 1228968, MH-92A Pump out Required per Operability Evaluation
 IR 1228972, MH-92B Pump out Required per Operability Evaluation
 IR 1228973, MH-92C Pump out Required per Operability Evaluation
 IR 1228998, MH-40A Pump out Required per Operability Evaluation
 IR 1229000, MH-40B Pump out Required per Operability Evaluation
 IR 1217015, Low Battery Voltage Indicated on LT-3-70A-026D
 IR 1217027, No Satellite Signal on LT-2-70A-047
 IR 1225003, MH-060 Alarm at 5 Inches from Sensor
 IR 1227295, No Signal Indicated for LT-3-70A-026D
 IR 1228840, LT-2-70A-041 for MH-41 Not Communicating
 IR 1228537, PIMS AR to Install New MH Cover and Install LT as Required (MH-052)
 IR 1228539, PIMS AR to Install New MH Cover and Install LT as Required (MH-053)
 IR 1228541, PIMS AR to Install New MH Cover and Install LT as Required (MH-054)
 IR 1228545, PIMS AR to Install New MH Cover and Install LT as Required (MH-067)
 IR 1228546, PIMS AR to Install New MH Cover and Install LT as Required (MH-068)
 IR 1228547, PIMS AR to Install New MH Cover and Install LT as Required (MH-069)
 IR 1228549, PIMS AR to Install New MH Cover and Install LT as Required (MH-070)
 IR 1228551, PIMS AR to Install New MH Cover and Install LT as Required (MH-077)
 IR 1228553, PIMS AR to Install New MH Cover and Install LT as Required (MH-115)
 IR 1228555, PIMS AR to Install New MH Cover and Install LT as Required (MH-116)
 IR 1228556, PIMS AR to Install New MH Cover and Install LT as Required (MH-117)
 IR 1228559, PIMS AR to Install New MH Cover and Install LT as Required (MH-118)

IR 1228561, PIMS AR to Install New MH Cover and Install LT as Required (MH-119)
IR 1228564, PIMS AR to Install New MH Cover and Install LT as Required (MH-130)
IR 1228567, PIMS AR to Install New MH Cover and Install LT as Required (MH-132)
IR 1228537, PIMS AR to Install New MH Cover and Install LT as Required (MH-052)
IR 1229530, PB Fast Track Project Authorization: Dry Cable Project PC0146724
IR 1229530, Dry Cable Project PC0146724: Missed ECR Milestone Dates
IR 1219755, MHs CRL ID's Need Added to 10-00259
IR 1222583, Bollards or Barriers Should Be Installed Around HH-127
IR 1222578, Bollards or Barriers Should Be Installed Around HH-126
IR 1230025, 19" Water in MH-42 plus FME
IR 1230322, MH-060 in Alarm
IR 1231221, Submerged Cables in MH-016B
IR 1231298, MH-016B Inspection Required per Op Eval
IR 1231568, MH-016A Inspection Required per Op Eval
IR 1231577, MH-089 Inspection Required per Op Eval
IR 1231677, Found Water and FME in MH-109
IR 1231423, MH-035 in Alarm
IR 1231425, MH-060 in Alarm
IR 1231633, 36" of Water in MH-044
IR 1231664, 6" of Water in MH-0070
IR 1231670, 18" of Water in MH-106
IR 1232495, 6" of Water in MH-133
IR 1232498, 6" of Water in MH-134
IR 1233572, MH-005 in Alarm
IR 1233573, MH-033 in Alarm
IR 1233701, Found Water and FME in MH-019
IR 1234071, MH-060 in Alarm
IR 1234085, MH-064 in Alarm
IR 1235202, Low Battery Voltage Indicated on LT-2-070A-057
IR 1235991, MH-006 Water Covered Cables
IR 1235992, Water Found Covering Cables in MH-075
IR 1235996, Water Found Covering Cables in MH-076
IR 1235997, Water Found Covering Cables in MH-081
IR 1235998, Water Found Covering Cables in MH-082
IR 1236000, Water Found Covering Cables in MH-003
IR 1236002, Water Found Covering Cables in MH-004
IR 1236389, MH-060 in Alarm
IR 1236801, MH-064 in Alarm
IR 1236803, MH-011 in Alarm
IR 1236804, MH-081 in Alarm
IR 1236805, MH-075 in Alarm
IR 1236807, MH-003 in Alarm
IR 1236978, MH-064 Transducer is Not Positioned Correctly
IR 1237200, MH-004 in Alarm
IR 1237625, MH-035 in Alarm
IR 1237704, MH-060 in Alarm
IR 1237709, MH-081 in Alarm
IR 1237713, MH-082 in Alarm
IR 1237782, MH Website Indicates Water in MH 004
IR 1237788, MH Website Indicates Water in MH-013
IR 1238077, MH-011 in Alarm

IR 1238088, MH-075 in Alarm
IR 1238089, MH-076 in Alarm

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

IR 1212082, Half Scram Signal Received during SI3N-60A- APRM 41FS
IR 1222498, ON-121 "Rod Drift" Entry
IR 1222491, Unit 2 Control Rod Drive 02-35 High Temperature and Control Rod Drift
IR 1222842, Benchmark Fleet Best Practice for Rod Drift Response
IR 1220525, OPRM 'Y' Trip Had Time Delay from Initiation to Alarm
AR A1779636, SI3N-60A-APRM-41FS - Functional Check of APRM "4"
WO R1178116, SI3N-60A-APRM-41FS - Functional Check of APRM "4"
SI3N-60A-APRM-41FS, Functional Check of APRM "4" (Aborted test record dated 5/5/2011)
SI3N-60A-APRM-41FS, Functional Check of APRM "4" (second aborted test record dated 5/5/2011)
IR 1222821, Entry into SE-16

Section 1R15: Operability Evaluations

IR 1171316, Possible 2 'C'-1 Water Box Condenser In-leakage
IR 1212944, ON-106 Entry for Stuck Control Rod 38-03
IR 1200486, Unit 2 HCU 38-03 Stroked Slowly From Position 46 to 48
IR 1213133, Fuse 20C028/FJK Replaced
A1802676, Multiple Rods Slow to Withdraw from Position 46 to 48
ON-106, Stuck Control Rod – Bases, Revision 7
RT-O-003-990-2, Control Rod Stroke Speed, Revision 11
AO 3.2-2, Insufficient CRD Movement Troubleshooting, Revision 8
SO 62.1.A-2, Withdrawing Inserting a Control Rod, Revision 17
IR 1171316, Possible 2 'C'-1 Water Box Condenser In-leakage
ST-O-052-202-2, E-2 Diesel Generator Slow Start and Full Load Test, Revision 20
IC-11-02020, Testing of Diesel Generator Voltage Regulators, Revision 10
R1103727, Perform Voltage Regulator PM E-2
IR 1220717, E-2 EDG KVAR Oscillations during Scheduled Load Run
A1809673, E-2 EDG KVAR Oscillations during Scheduled Load Run
IR 1225014, 2 'B' D003-1 Battery Charger Troubleshooting Post Job Critique
IR 1210275, 2 'B' D003-1 Battery Charger Failure
IR 1219249, Battery Charger Operability Delayed
A1806111, 2 'B'D003-01 Battery Charger
A1711912, 2 'C' Station Battery Charger Trouble
C0238132, 2 'B' D003-1 Troubleshoot Charger Failure
SO 57B.1-2, 125 250 Volt Station Battery Charger Operations, Revision 5
IR 1225840, Update – PB Review of NRC TIA for SFP Boraflex
IR 1203277, Benchmarking – Degraded Boraflex Admin Control Development
IR 1217044, Unit 2 Boraflex Project Did Not Meet E18 ECR Approval Milestone

Additional Documents

Memorandum to J. W. Clifford (USNRC, Region I) From T. B. Blount (USNRC, NRR) regarding Draft Response to Task Interface Agreement 2011-004, PBAPS, Units 2 and 3 SFP Neutron Absorber Degradation, dated May 3, 2011 (ADAMS Accession No: ML111110901)

Memorandum to J. R. Jolicoeur (USNRC, NRR) From J. W. Clifford (USNRC, Region I) regarding Request For Technical Assistance Regarding PBAPS, Units 2 and 3 SFP Neutron Absorber Degradation (TIA 2011-004), dated January 25, 2011 (ADAMS Accession No: ML110250647)

Section 1R18: Plant Modifications

TCCP ECR 09-00484, Revision 1, Unit 2 Recombiner Steam Flow Slowly Decreasing
 ECR 10-00405, Revision 4, Pressure Seal Steam Leak
 ECR 10-00161, Revision 1, Unit 3 Recombiner Steam Flow Indicating Decreasing Trend
 A1727331, Unit 2 Recombiner Steam Flow Slowly Decreasing
 A1692275, Process Isolation Steam Flow to Recombiner Jet Valve Packing Leak
 A1424487, Unit 3 Recombiner Steam Flow Lowering
 IR 879389, Steam Leak Identified on Main Steam Control Valve to Recombiner System
 IR 917130, Main Steam Control Valve to Recombiner System Leaking Again
 C0230427, Vent and Purge Equipment and Instruments TCCP 09-00484
 AO 8.7.B-2, Revision 5, Placing CV-4018 Main Steam Control to Recombiner on Manual Bypass
 M-331, Sht. 1, Revision 74, TCCP 10-00405 Off-Gas Recombiner System
 C0233758, Change FS-4020A/B Setpoint in accordance with TCCP 09-00484
 LS-AA-104-1003, Revision 2, 50.59 Screening Form
 LS-AA-104-1004, Revision 4, 50.59 Evaluation Form
 GEH Task Report T0801, Revision 0, Gaseous Waste Management
 GE SIL 150, Revision 2, Supplement 1: Ignition Prevention for Recombiner/Charcoal Adsorber Offgas Systems
 Addendum 2 to Specification 6280-M-087 (Spec M-87), Revision 1, Off-Gas Recombiners for the PBAPS Units 2 and 3

Section 1R19: Post-Maintenance Testing

AR A1805287, MH-64 Found With Unacceptable Water Level
 IR 1207395, MH-64 Found With Unacceptable Water Level
 IR 1201723, MH-025A is in Alarm
 IR 1202047, Water Intrusion in Pump Structure Conduits
 IR 1202226, MH-060 is in Alarm
 IR 1203357, MH-060 is in Alarm
 IR 1203576, Enhancement IR – MH Level Transmitter Monitoring
 IR 1203648, MH-025A is in Alarm
 IR 1203649, MH-035 is in Alarm
 IR 1204441, LT Associated with MH 25D Not Showing Signal
 IR 1204445, MH-060 Water Level is Above Limit
 IR 1204522, Safety Concern Around the Lifting of MH Covers
 IR 1204558, 26" of Water in MH-010 Covering Cables is in Alarm
 IR 1206223, Some Cables Are Still Submerged with Less than 2" of Water

IR 1206464, MH Level Transmitter Premature Degradation
 IR 1206494, MH-060 Water Level is Above Limit
 IR 1207395, MH-064 Found with Unacceptable Water Level
 IR 1208169, MH-064 is in Alarm for Water Level
 IR 1210571, MH-131 Cables Submerged in Water
 IR 1210600, Water in MH-80 Touching Cables
 IR 1209058, LT-2-70A-008 Has Stopped Transmitting
 IR 1209099, MH-016A Inspection
 IR 1209108, MH-016B Inspection
 IR 1209114, MH-089 Inspection
 IR 1209125, MH-092A Inspection
 IR 1209131, MH-092B Inspection
 IR 1209133, MH-092C Inspection
 IR 1209141, MH-040 Inspection
 IR 1209148, MH-040B Inspection
 IR 1209309, MH-041 in Alarm on the Smartcover Monitoring System
 IR 1210897, Water Touching Electrical Cables MH 17 (East)
 IR 1210979, MH-17A Needs Pumped Out
 IR 1210984, MH-17B Needs Pumped Down
 IR 1210991, MH-18A Needs Pumped Out
 IR 1210992, MH-18B Needs Pumped Out
 IR 1209868, MH Cover MH-060 High Water Alarm In
 IR 1211511, Electrical MH-033 Level Alarm
 IR 1212017, MH-060 High Level Alarm
 IR 1220638, MH Lid Replacement Not Required for MH-67
 IC-C-11-00356, Revision 5, Calibration of Filled Thermal Instruments
 M-377, Sheet 3, Revision 44, Diesel Generator Auxiliary Systems Lube Oil System
 IR 933758, Switch Mechanism Found Disconnected From Switch
 IR 1206080, E-1 EDG Fuel Oil Storage Tank Low Level Alarm
 C0237857, Recalibrate, Repair, Replace TS-0588A
 R1132701, PM Coupling and Change Pump Bearing Oil
 MA-AA-716-230-1002, Revision 3, Vibration Analysis Acceptance Guideline
 MA-AA-716-230-1003, Revision 3, Thermography Program Guide
 A1740098, Replace Existing Oil Level Indicators
 IR901326, Evaluate New Design for Oil Sight Glass Level Indicators
 IR 1225014, 2 'B' D003-1 Battery Charger Troubleshooting Post-Job Critique
 IR 1210275, 2 'B' D003-1 Battery Charger Failure
 IR 1219249, Battery Charger Operability Delayed
 A1806111, 2 'B' D003-01 Battery Charger
 A1711912, 2 'C' Station Battery Charger Trouble
 C0238132, 2 'B' D003-1 Troubleshoot Charger Failure
 SO 57B.1-2, 125 250 Volt Station Battery Charger Operations, Revision 5
 ST-M-57B-762-2, Battery Charger 2BD003-1 and 2BD003-2 Capability Test, Revision 4
 M-057-014, Cyberex 125 Volt Battery Charger Maintenance, Revision 13
 ST-O-014-301-2, Revision 31, CS Loop 'A' Pump, Valve, Flow, and Cooler Functional
 and IST, performed 06/21/11
 ST-O-094-400-2, Revision 3, Stroke Time Testing of Valves for PMT, performed 06/20/11 under
 R0910061-07
 ST-O-094-400-2, Revision 3, Stroke Time Testing of Valves for PMT, performed 06/20/11 under
 R1008725-02
 ST-O-094-400-2, Revision 3, Stroke Time Testing of Valves for PMT, performed 06/20/11 under

R1007707-02

IR 1233016, Leak on Unit 3 HPCI Supply Pressure Sensing Line
 IR 1234845, HPCI Turbine Steam Supply Pressure Tubing
 IR 1234708, Reschedule SI3F-23-78-XXFQ
 C0238736, Repair Unit 3 Supply Pressure Sensing Line Tubing
 MA-AA-716-060, Compression Fittings Inspection, Installation, Remake and Repair, Revision 1
 MA-AA-716-100, Maintenance Alterations Process, Revision 11
 MA-AA-716-012, PMT, Revision 13
 M-365, Sht. 2, P&I Diagram HPCI System

Section 1R22: Surveillance Testing

TI 2515/183, Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event
 IR 1189829, RT-O-100-505-2 – EOP Tool Inventory Signed Off Unsatisfactorily
 IR 1187702, Exelon Fleet Response to Earthquake in Japan
 IR 1188661, Process for Evaluation of Issue Event Report on “Fukushima Daiichi Nuclear Station Fuel Damage Caused by Earthquake and Tsunami”
 IR 1188595, Fukushima Daiichi Earthquake and Tsunami
 IR 1157318, 3 ‘C’ HPSW Pump Failed PMT
 IR 1171208, Increased Frequency Testing Failed
 IR 1158929, 3 ‘C’ HPSW Pump Tested in IST Alert Range
 IR 1103828, E-3 D/G Slow Start Full Load IST Test
 IR 1172276, One-Time Check of the E-3 EDG Based on the Generic Issue
 IR 1117270, E-3 D/G Outboard Bearing Temperature High

WO C0235988, 3CP042 Swap New Pump with Previous Pump
 WO C0236003, 3CP042 Swap Pump Assembly

ST-O-032-301-3, HPSW Pump, Valve and Flow Functional and IST, Revision 24
 ST-O-020-560-2, RCL Test (test record, completed 04/10/2011)
 ST-O-020-560-3, RCL Test (test record, completed 04/10/2011)
 ST-O-020-560-2, RCL Test (test record, completed 04/17/2011)
 ST-O-020-560-3, RCL Test (test record, completed 04/17/2011)
 ST-O-020-560-2, RCL Test (test record, completed 04/24/2011)
 ST-O-020-560-3, RCL Test (test record, completed 04/24/2011)
 ST-O-052-313-2, E-3 Diesel Generator Slow Start Full Load and IST Test, Revision 19

RT-O-28B-800-2, Revision 16, River Temperature and Flow Monitoring and Test (test record, completed 06/06/2011)
 SE-19, Revision 0, High Discharge Canal Temperature - Procedure
 SE-19, Revision 0, High Discharge Canal Temperature - Bases

Section 1EP6: Drill Evaluation

PBAPS June 21, 2011 Hostile Action Drill Scenario Notebook
 IR 1239485, PB-EP-HAB-Alternate Staging Area (Locked Building)
 IR 1239492, Peach Bottom HAB Scenario Control
 IR 1239500, Peach Bottom HAB Issue
 IR 1239508, Peach Bottom HAB Protective Action Recommendation Issue
 IR 1239515, Peach Bottom HAB Alternate Staging Area Equipment Issues
 IR 1239525, Peach Bottom Hostile Action Drill Alternate Staging Area Issues
 IR 1239543, Peach Bottom Action Drill Counties Issues

IR 1240560, Peach Bottom Hostile Action Drill ICP Issues
 IR 1240561, Peach Bottom HAB Risk Counties Issues
 IR 1242476, Peach Bottom Hostile Action Drill Report
 IR 1242910, PCR: SY-PB-101-3000
 NRC RIS 2006-012: Endorsement of NEI Guidance "Enhancements to Emergency Preparedness Programs for Hostile Action"
 NRC Bulletin 2005-02: Emergency Preparedness and Response Actions for Security-Based Events
 IR 1225969, FOF EP Extent of Play Not Met for NRC Notification Simulation
 IR 1225970, Combined EP Critique for 2011 FOF Exercises
 State/Local Event Notification Form (simulated, 5/18/2011)
 Reactor Plant Event Notification Worksheet (simulated, 5/18/2011)

Section 2RS05: Radiation Monitoring Instrumentation

Procedures

SI-2R-63M-350, Liquid Radwaste Monitor Electronic Calibration/Functional Check
 ST-0-63m-810-2, Liquid Radwaste Monitor and Discharge Valve Functional Test
 SI2F-20-442, Calibration Check of Radwaste Liquid Effluent Flow Instrument
 ST-C-095-836-2, Liquid Radwaste Monitor Source Check
 SI2R-63-A-351-XXCE, Electronic Calibration/Functional Check of the Service Water Radiation Monitor
 ST-I-63A-801-2, Service Water Monitor Quarterly Check
 ST-I-63A-800-2, Service Water Monitor Monthly Monitor Source Check
 SI3R-63A-351-XXCE Electronic Calibration/Functional Check of the Service Water Radiation Monitor
 ST-I-63A-801-3, Service Water Monitor Quarterly Check
 SI2R-63E-2979-A1CE, Vent Stack Radiation Monitor RY-2979A Electronic Calibration Check (Channel A/B)
 SI2F-40B-2805-A1CE, Calibration Check of RB Vent Stack Flow Loop Instrument
 SI2R-63E-2979-A1FQ, Vent Stack Radiation Monitor RY-2979A Electronic Functional Check
 SI3R-63E-3979B-B1CE
 SI3R-63E-3979-A1FQ, Vent Stack Radiation Monitor RY-3979A, Electronic Functional Test
 SI3-F-40B-3805-B1CE, Calibration Check of the RB Vent Stack Flow Loop Instrument
 SI3R-63E-3979B, Vent Stack Radiation Monitor RY-3979B Electronic Calibration Check
 Electronic Calibration
 SI2R-63F-050-A1CE, B1CE
 Main Stack Monitor RY-0-17-050A Electronic Calibration Check
 SI2R-63F-050-A1FQ, Main Stack Radiation Monitor RY-0-050A Functional Check
 SI2F-8-470-B1CE, Calibration Check of Off-Gas Stack Flow Loop Instrument

Documents

Calibration/Functional Testing/Checking Records (latest) – Unit 2 and 3 Vent Stack, Radwaste Liquid Effluent, Unit 2 and 3 Service Water Monitor, Main Plant Stack, Meteorological Instrumentation

Section 2RS06: Radioactive Gaseous and Liquid Effluent Treatment

Procedures

CY-AA-170-0100, Revision 2, Familiarization Guide for REMP, MET, Radiological Groundwater Protection Program (RGPP), and REC Programs
CY-AA-170-000, Revision 4, Radiological Effluent and Environmental Monitoring Programs
CY-AA-170-215, Revision 0, Release of Bulk Fluids from Potentially Contaminated Plant Systems
CY-AA-170-200, Revision 1, Radioactive Effluent Control Program
CY-AA-170-3100, Revision 3, ODCM Revision
CY-AA-170-300, Revision 2, ODCM Administration
CY-AA-170-2000, Revision 5, Annual Radioactive Effluent Release Report
CY-AA-170-2100, Revision 0, Estimate of Error of Effluents Measurements
CY-AA-170-210, Revision 0, Potentially Contaminated System Control Program
RP-AA-228, Revision 1, 10 CFR 50.75(g) and 10 CFR 72.30(d)

Documents

Annual Radiological Effluent and Environmental Monitoring Reports (2010, 2009)
Reports (Various) - Routine Groundwater
General Source Term Data
Groundwater Analyses

Section 2RS07: Radiological Environmental Monitoring Program

Procedures

CY-AA-170-0100, Revision 2, Familiarization Guide for REMP, MET, RGPP, and REC Programs
CY-AA-170-000, Revision 4, Radiological Effluent and Environmental Monitoring Programs
CY-AA-170-215, Revision 0, Release of Bulk Fluids from Potentially Contaminated Plant Systems
CY-AA-170-200, Revision 1, Radioactive Effluent Control Program
CY-AA-170-3100, Revision 3, ODCM Revision
CY-AA-170-300, Revision 2, ODCM Administration
CY-AA-170-2000, Revision 5, Annual Radioactive Effluent Release Report
CY-AA-170-2100, Revision 0, Estimate of Error of Effluents Measurements
CY-AA-170-210, Revision 0, Potentially Contaminated System Control Program
RP-AA-228, Revision 1, 10 CFR 50.75(g) and 10 CFR 72.30(d)

Documents

Meteorological Tower Calibration Data (tower sensors 4/7/11)
Annual Meteorological Report - 2010
2011 Meteorological Monitoring Report – January, February, March 2011
2010 RGPP Report
1998-2007 MET Data Summary
Annual Radiological Effluent and Environmental Monitoring Reports (2010, 2009)
Reports (Various) - Routine Groundwater

General Source Term Data
Groundwater Analyses
Reportability Manual

**Section 2RS08: Radioactive Solid Waste Processing and Radioactive Material, Handling
Storage, and Transportation**

Procedures

RT-H-099-931-2, Revision 1, Radiation Protection Shipping QA Review
RT-W-200-965-2, Low Level Radwaste Storage facility (LLRWSF) Waste Container and
Storage Inspection
RP-AA-600, Revision 12, Radioactive Material/Waste Shipment
RP-AA-600-1001, Revision 6, Exclusive Use and Emergency Response Information
RP-AA-605, Revision 3, 10 CFR 61 Program
RP-PB-605-1001, Revision 2, Peach Bottom 10 CFR 61 Sampling Report Nos. 29, 30, 31
RP-AA-602, Revision 15, Packaging of Radioactive Material Shipments
RP-AA-602-1001, Revision 10, Packaging of Radioactive Material/Waste Shipments
RP-AA-600-1004, Revision 8, Radioactive Waste Shipments to Energy Solutions Clive Waste
Disposal Site Containerized Waste facility
RP-AA-600-1005, Revision 12, Radioactive Material and Non-disposal Site Waste Shipments
CY-AA-130-201, Revision 0, Radiochemical Quality Control

Documents

NRC QA Program Approval, No. 8, Revision 12
Radioactive Waste Shipping Audit templates
10 CFR, Part 61 Program, Scaling Factor Determination Reports 31
Peach Bottom ECR No. 06-00168-003
PM-R1102279
PM R110253
PMR1072485

Additional Documents

Memorandum to Paul G. Krohn through Pamela J. Henderson, Chief, from Ronald L. Nimitz,
Senior Health Physicist, PBAPS Feeder for Inspection Reports 05000277/2011003 and
05000278/2011003, dated May 12, 2011.

Memorandum to Paul G. Krohn through Pamela J. Henderson, Chief, from Ronald L. Nimitz,
Senior Health Physicist, PBAPS Feeder for Inspection Reports 05000277/2011003 and
05000278/2011003, dated July 15, 2011.

Section 4OA1: Performance Indicator (PI) Verification

LS-AA-2001, Revision 14, Collecting and Reporting of NRC Performance Indicators Data
LS-AA-2090, Revision 4, Monthly Data Elements for NRC RCS Specific Activity
LS-AA-2100, Revision 5, Monthly Data Elements for NRC RCS Leakage
ST-O-020-560-2, Revision 12, Reactor Coolant Leakage Test (sample of completed test
records)
ST-O-020-560-3, Revision 14, Reactor Coolant Leakage Test (sample of completed test
records)

M-368, Sheet 1, Revision 36, P&ID: Radwaste Liquid Collection System
 SI2F-20B-364-xxCQ, Revision 6, Calibration Check of Drywell Equipment Drain Sump Flow
 Instruments FT 2-20-364, FQ 2-20-530 and FR 2-20-528
 SI3F-20B-364-xxCQ, Revision 5, Calibration Check of Drywell Equipment Drain Sump Flow
 Instruments FT 3-20-364, FQ 3-20-530 and FR 3-20-528
 R0020184, LS-2-20-360 PM (Cal and Perform Functional Test)
 R0005961, LS-3-20-360 PM (Cal and Perform Functional Test)
 IR 1126980, I&C Repeat Maintenance Issues with Drywell Sumps
 ST-C-095-820-2, Determination of Dose Equivalent $\mu\text{Ci/g}$ I-131 in Primary Coolant
 ST-C-095-820-3, Determination of Dose Equivalent $\mu\text{Ci/g}$ I-131 in Primary Coolant
 CH-407, Sampling of Reactor Water
 CH-C-601, Determination of Dose Equivalent I-131
 CY-AA-130-3010, Revision 2, Dose Equivalent Iodine Determination

Section 40A2: Identification and Resolution of Problems

Documents

Corrective Action Documents (IRs: 812153, 1068815, 121635, 1189933, 1173600, 1076699, 1150922, and 1096523)
 Check in Assignment 1130862-02, Programmatic Review- Radioactive Material Handling, Storage, and Transportation along with Nationally Tracked Sources
 Check-in 854147-02, 10 CFR 61 Program Review
 NUPIC Audit 2011
 Chemistry Radwaste, Effluent and Environmental Monitoring Report Monthly Audit Report
 Quarterly Radiation Protection Shipping QA Review for 10 CFR 20, Appendix G (4th Quarter 2010)
 NRC QA Program Approval, No. 8, Revision 12

 OP-AA-102-103, Operator Work-Around Program, Revision 3
 OP-AA-102-103-1001, Operator Burden and Plant Significant Decisions Impact Assessment Program, Revision 4
 TCCP ECR 09-00484, U2 Recombiner Steam Flow Slowly Decreasing, Revision 1
 ECR 10-00405, Pressure Seal Steam Leak, Revision 4
 ECR 10-00161, Unit 3 Recombiner Steam Flow Indicating Decreasing Trend, Revision 1
 AO 8.7.B-2, Placing CV-4018 Main Steam Control to Recombiner on Manual Bypass, Revision 5
 SO 50A.8.A-2, Routine Inspection of the Stator Cooling System, Revision 23
 AO 3.8, Evaluation of High CRD Temperature on Control Rod Scram Time, Revision 0
 IR 1165932, Received Blowdown Relief Valves Bellows Leaking Alarm
 IR 1222468, End of Shift Critique: Nights 5/27 to 5/30
 IR 1222205, MO-2-10-026A Seat Leakage
 IR 1220053, 2 'A' Circ Water Pump Motor Thrust Bearing Computer Point
 IR 1178455, MO-2-10-026A Potentially Leaking By During Surveillance Test
 IR 1225027, HCU 30-31 High Temperature Alarm with Entry to AO 3.8
 IR 1224957, CRD High Temp on CRD 30-31 during Monthly Test
 IR 1168935, Service Water to Generator Stator Coolers air line failed
 IR 1123161, Main Steam Control Valve to Recombiner System Unavailable
 IR 1192920, Fuel Pool Service Water Booster Pump Discharge Check Valve Does Not Seat Tightly
 IR 1189667, Vibration Monitoring Panel Rack 2 Power Supply Failed PMT

C0235369, HV-2-08-43037: Permanent Repair/Removal of TTC
C0236695, Replace Valve CV-2-30-2487
C0236839, Rework, Recalibrate, and Replace PS-2-02-071A as Required
A1778309, CV-2-30-2487 As Found Diagnostic Testing Unsat

Documents Reviewed:

IR 1188457, Unit 2 HPCI Discharge Pipe Draining Through RV-66`
IR 1162006, Valve Found Out of Position during Equipment Restoration
IR 1222585, Unexpected Alignment on Condenser Cleaning
IR 1200382, Fuses Discovered Not Installed
IR 1173391, Locked Open Valve Found Unlocked and Open
IR 1173150, Handswitch for E4 EDG Prelube Pump Found Out of Position
IR 1203953, 2010 and 2011 Configuration Control Events
IR 1203002, Industrial Safety Performance
IR 1170201, Station Rework Program
IR 1191109, Increased Number of Crew DEP Failures
IR 1212810, Chemistry CA Attribute is an ARMA
IR 1225431, Receipt of NRC TIA Response for SFPs
IR 1225840, Update – PB Review of NRC TIA for SFP Boraflex
IR 1232678, Low Wall Reading on 12 inch A ESW Supply in Excavation 7
IR 1233403, Low Wall Reading on 16 inch A ESW Supply in Excavation 6

IRs 1160284, 1160285, 1167515, 1167770, 1170289, 1170291, 1170324, 1170325, 1180595,
1183743, 1183744, 1183885, 1183892, 1183893, 1186737, 1189619, 1189633,
1194412, 1194901, 1199471, 1203361, 1204977, 1204978, 1206954, 1210057,
1210183, 1210318, 1212248, 1212426, 1213093, 1216113, 1216114, 1216196,
1216229, 1216231, 1216233, 1216548, 1216965, 1217248, 1217765, 1218726,
1221250, 1221264, 1221599, 1222008, 1222180, Fatigue Assessment for Work Hour
Waiver

IRs 1151671, 1152789, 1153711, 1162067, 1162071, 1162073, 1162074, 1162076,
1162077, 1162080, 1162081, 1162097, 1169178, 1173934, 1173937, 1173940,
1173950, 1173968, 1173971, 1173975, 1173980, 1173982, 1179275, 1179324,
1179383, 1185849, 1185854, 1192182, 1192192, 1199626, 1199628, 1199637,
1199654, 1199662, 1200892, 1200896, 1200898, 1203576, 1204441, 1206464,
1209058, 1217015, 1217027, issues related MH level transmitter deficiencies

IRs 1147493, 1147494, 1147495, 1152771, 1160797, 1160816, 1160819, 1160825,
1160828, 1160832, 1164412, 1170452, 1174041, 1175694, 1180439, 1180441,
1184529, 1185847, 1186171, 1186172, 1186841, 1187438, 1187606, 1187614,
1188197, 1188224, 1189199, 1189256, 1191300, 1191923, 1192178, 1192195,
1192251, 1192768, 1194910, 1201723, 1202226, 1203357, 1203648, 1203649,
1204445, 1204558, 1206223, 1206494, 1207395, 1209099, 1209108, 1209114,
1209125, 1209131, 1209133, 1209141, 1209148, 1209309, 1209868, 1210571,
1210600, 1210897, 1210979, 1210984, 1210991, 1210992, 1211511, 1212017,
1213094, 1213555, 1214079, 1214092, 1214095, 1214101, 1214116, 1214127,
1214132, 1214136, 1214159, 1216383, 1217265, 1217685, 1218073, 1218079,
1218084, 1218149, 1218150, 1218152, 1218154, 1219880, 1221773, 1222153,
1222514, 1222518, 1222526, 1222568, issues related to water intrusion into MHs
containing underground cables

Documents

Corrective Action Documents (IRs: 1057566, 1071003, 1084870, 1090824, 1127180, 1154478, 1163049, 1180299, 1224998, 1225007, 1204762, 1205312, 1206229, 1208868, 119174, 11802991152479, 1127180, 1090824, 1084870, 1212585, 121601, 1223411, 1193238, 1189408, 1193315, 1191449, 1137397, 1181512, 1182172, 1004376, 1002727, 1120323, 1170183, 11701891169800, 1165662, 1160965, 1149902, 1026864, 1029761, 1071822, 1093177, 111151, 1193238, 812153, 1068815, 121635, 1189933, 1173600, 1076699, 1150922, 1096523)

NER-PB-11-012

FASA – Chemistry, Environmental

FASA – MET Tower

Apparent cause – 1093240, 1093215

Check in Assignment 1130862-02, Programmatic Review- radioactive material Handling, Storage, and Transportation along with Nationally Tracked Sources

Check-in 854147-02, 10 CFR 61 program Review.

NUPIC audit 2011

Chemistry Radwaste, Effluent and Environmental Monitoring Report Monthly Audit Report

Quarterly Radiation Protection Shipping QA review for 10 CFR 20, Appendix G (4th quarter2010)

NRC QA Program Approval, No. 8, Revision 12

Section 40A3: Follow-up of Events and Notices of Enforcement Discretion

IR 1188457, Unit 2 HPCI Discharge Pipe Draining through RV-66

IR 1188987, HPCI Cooling Water Header Relief Valve Leaking

IR 1189134, As Found Test of RV-2-23B-066 Unsat

Section 40A5: Other Activities

Memorandum to Timothy J. Kobetz (USNRC, NRR) From Raymond J. Powell (USNRC, Region I) regarding Region I Completion of TI-184, "Availability and Readiness Inspection of SAMGs," dated May 27, 2011 (ADAMS Accession No: ML111470361)

Results Overview TI 2515/184, (<http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/TI-184-Results-Overview.pdf>)

Summary of Observations TI 2515/184, (<http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/Summary-of-Observations-TI-2515-184.pdf>)

IR 1209460, Tracking IR for Pending NRC TI 2515/184 SAMG Inspection
 IR 1213953, NOS ID: ERO SAMG Training Enhancement
 IR 1220430, Use of ECT for Fire Water Make-Up
 IR 1220601, Review SAMG Training Material and Revise as Needed
 IR 1231585, 30 TLDs Required for B.5.b Not in Inventory Procedure
 IR 1229001, Secondary Containment Required on Loss of Fuel Pool Cooling
 IR 1226708, Recommendations for SFP Loss of Cooling and Makeup
 IR 1202165, Listing of Implementing Docs for Commitment T04638
 IR 1202173, Optimizing Refuel Bridge Placement for Spray
 IR 1209165, Benchmarking for B.5.b Equipment into EOPs
 IR 1220430, Use of ECT for Fire Water Makeup
 IR 1218058, NRC Question on SAMG Drill Frequency of Six Years
 IR 1218463, Fleet Flood Protection Equipment – Improvement Needed

IR 1217430, NRC Question on ERO SAMG Training in TQ-AA-113
 IR 1213671, Improvement Opportunities from Japan Event Response Activity
 IR 1212351, Enhancement Opportunity Relating to SAMGs in EOF
 IR 1212213, Recommendations from Review of SAMGs per TI 215/184
 IR 1221601, Minor Weakness in TSG-4.1 for Obtaining Equipment
 IR 1203267, Enhancement to Stage Replacement Fuses with SRV Portable PS
 IR 1233371, Develop Fuel Pool Heat-up Rate Calculation

Severe Accident Management Plan (SAMP) -1, Sheet 1, RPV (Reactor Pressure Vessel) and Primary Containment Flooding, Revision 5 (10/05/10)
 SAMP-1, Sheet 2, RPV and Primary Containment Flooding, Revision 5 (10/05/10)
 SAMP-1, Sheet 3, RPV and Primary Containment Flooding, Revision 3 (05/04/07)
 SAMP-1, Sheet 4, RPV and Primary Containment Flooding, Revision 4 (10/05/10)
 SAMP-1, Sheet 5, RPV and Primary Containment Flooding, Revision 5 (10/05/10)
 SAMP-1, Sheet 6, RPV and Primary Containment Flooding, Revision 5 (10/05/10)
 SAMP-1, Sheet 7, RPV and Primary Containment Flooding, Revision 5 (10/05/10)
 SAMP-1, Bases, RPV and Primary Containment Flooding, Revision 5 (10/05/10)
 SAMP-2, Sheet 1, Containment and Radioactivity Release Control, Revision 5 (05/04/07)
 SAMP-2, Sheet 2, Containment and Radioactivity Release Control, Revision 3 (05/04/07)
 SAMP-2, Sheet 3, Containment and Radioactivity Release Control, Revision 0 (03/23/11)
 SAMP-2, Bases, Containment and Radioactivity Release Control, Revision 6 (05/04/07)
 Technical Support Guideline (TSG)-1.1, Control Parameter Assessment, Revision 2 (05/08/07)
 TSG-1.2, Instrument Availability, Revision 2 (12/15/04)
 TSG-1.3, Peach Bottom RPV and Containment Flooding Diagram, Revision 2 (05/04/07)
 TSG-2.1, System Prioritization, Revision 0 (10/23/98)
 TSG-2.2, System Availability Assessment, Revision 2 (01/25/11)
 TSG-3.1, TRIP/SAMP Action Timing, Revision 0 (10/23/98)
 TSG-3.2, RPV Breach by Core Debris, Revision 1 (02/05/03)
 TSG-3.3, Guidance and Criteria for Containment Venting, Revision 1 (02/05/03)
 TSG-4.1, Peach Bottom Station Operational Contingency Guidelines, Revision 17 (02/17/11)
 TSG-4.2, Extreme Damage Mitigation Guideline for Loss of Large Area of the Plant, Revision 2 (12/10/10)
 Plant Specific Severe Accident Management Guideline (PSSMG) - SAMP-1, RPV and Primary Containment Flooding Severe Accident Guideline, Revision 5 (10/05/10)
 PSSMG, Appendix A, SAMP-1, RPV and Primary Containment Flooding Severe Accident Guideline, Revision 5 (10/05/10)
 PSSMG, Appendix B, SAMP-1, RPV and Primary Containment Flooding Severe Accident Guideline, Revision 5 (10/05/10)
 PSSMG- SAMP-2, Containment and Radioactivity Release Control Severe Accident Guideline, Revision 3 (05/04/07)
 PSSMG, Appendix A, SAMP-2, Containment and Radioactivity Release Control Severe Accident Guideline, Revision 4 (05/04/07)
 PSSMG, Appendix B, SAMP-2, Containment and Radioactivity Release Control Severe Accident Guideline, Revision 5 (05/04/07)
 T-Bas (Intro), Introduction to TRIPS and SAMPS – Bases, Revision 9
 PSTG Appendix A – Introduction, Introduction, Revision 2
 OP-PB-114-101, TRIP and SAMP Procedures Program, Revision 0
 OP-PB-114-102, TRIP and SAMP Procedures Writer's Guide
 OP-PB-114-103, TRIP and SAMP Procedures Verification and Validation (V&V) Program, Revision 0
 CC-AA-102, Design Input and Configuration Change Impact Screening, Revision 20
 2011 Emergency Response Organization (ERO) SAMP and TSG Required Reading Package, Severe Accident Management Overview - A Review of Mitigating Strategies Implemented through the SAMPs and the TSGs
 TQ-AA-113, ERO Training and Qualification, Revision 18

EP-AA-122-1001, Drill & Exercise Scheduling, Development and Conduct, Revision 13
EP-AA-1007, Exelon Nuclear Radiological Emergency Plan Annex for PBAPS, Section 4.5,
Severe Accident Management, Revision 21, dated 3/25/2011
Peach Bottom Licensed Operator Training Lesson Plan (PLOT) -1562, SAMPs, Revision 2
PLOT-1695, Severe Accident Management Overview, Revision 1
Peach Bottom Licensed Operator Regualification Training Lesson Plan (PLORT)-06-05D,
MOCD and SAMP Procedure Changes, Revision 0
PLORT-08-06A, MOCD [Part 2], Revision 0
PLORT-1006A, Core Thermal Limits and Mitigation of Core Damage, Revision 2, 2-11-2011
PLORT-EP-SAM, SAMP Procedure Revision, SAMP Refresher Training, Revision 0

NRC Bulletin 2011-01: Mitigating Strategies

Procedures

RP-AA-800, Revision 6, Control, Inventory, and Leak Testing of Radioactive Sources

Documents

NSTS Source Inventory
NSTS Reconciliation Reports

Section 40A7: Licensee-Identified Violations

IR 1188987, HPCI Cooling Water Header Relief Valve Leaking
IR 1189134, As Found Test of RV-2-23B-066 Unsat
IR 1188457, Unit 2 HPCI Discharge Pipe Draining trough RV-66
IR 1166430, High Sump Hours on RB Floor Drain Sump
IR 1167584, Steam Leak on RB Heating coil
IR 1195115, Control of RB Sump Level Changes Needs Evaluated
IR 1221619, Quarantine Valve Investigation of Relief Valve Failure
R0985077, Bench Test, Readjust, Replace Relief Valve
ST-O-023-350-2, HPCI Valve Alignment and Filled and Vented Verification, Revision 4
SO 23.7.B-2, Transfer of HPCI Pump Suction from CST to Torus, Revision 7
SI2L-23-91-XXFQ, Functional Check of HPCI Suppression Chamber Level Instruments,
Revision 3

LIST OF ACRONYMS

ACE	Apparent Cause Evaluation
ACMP	Adverse Condition Monitoring Plan
ADAMS	Agency-wide Documents Access and Management System
APRM	Average Power Range Monitor
AR	Action Request
ATSC	Alternate Technical Support Center
CAP	Corrective Action Program
CAS	Central Alarm Station
CCA	Common Cause Analysis
CFR	Code of Federal Regulations
CS	Core Spray
CST	Condensate Storage Tank
DBD	Design Basis Document
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
ERO	Emergency Response Organization
ESW	Emergency Service Water
FPP	Fire Protection Plan
FSAR	Final Safety Analysis Report
GPI	Groundwater Protection Initiative
HAB	Hostile Action Based
HPCI	High Pressure Coolant Injection
HPSW	High Pressure Service Water
HX	Heat Exchanger
ICP	Incident Command Post
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
IST	Inservice Testing
LER	Licensee Event Report
LLDs	Lower Limits of Detection
MCR	Main Control Room
MH	Manhole
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NSTS	National Source Tracking System
OA	Other Activities
OCs	Operator Challenges
OD	Operability Determination
ODCM	Offsite Dose Calculation Manual
OS	Occupational Radiation Safety
OTDM	Operational and Technical Decision Making
OWA	Operator Work Arounds
PARS	Publicly Available Records
PBAPS	Peach Bottom Atomic Power Station
PCP	Process Control Program

PI	Performance Indicator
PI&R	Problem Identification and Resolution
PMT	Post-Maintenance Testing
QA	Quality Assurance
RB	Reactor Building
RBCCW	Reactor Building Closed Loop Cooling
RCL	Reactor Coolant Leakage
RCS	Reactor Coolant System
REMP	Radiological Environmental Monitoring Program
RG	Regulatory Guide
RGPP	Radiological Groundwater Protection Program
RPV	Reactor Pressure Vessel
RTP	Rated Thermal Power
SAMGs	Severe Accident Management Guidelines
SAMP	Severe Accident Management Plan
SE	Special Event
SFP	Spent Fuel Pool
SSCs	Structures, Systems, and Components
SRA	Senior Reactor Analyst
STs	Surveillance Tests
TI	Temporary Instruction
TRIP	Transient Response Implementation Plan
TRM	Technical Requirements Manual
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order